E.C ✓

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
WASHINGTON

# RE-EXAMINATION OF ABSENTEEISM

Source: Industrial Medicine, October 1942

. . First, a certain amount of absenteeism from work is inevitable. Employees, in general, don't want to get sick any more than they want to get hurt in accidents. But they do get sick, nevertheless. The National Health Survey estimated the average numbers of days lost from work or other usual pursuits by reason of specific chronic diseases in 1937 at 697,000,000. Relating this to the 10,000,000 people likely to have "work or other usual pursuits"--even such, perhaps, as going to school--the routine of the entire country in 1937 suffered about 2½% of absenteeism, from chronic ailments. If that is typical of the years since, and if a reasonable estimate for acute conditions is 1½%--hot unlikely in view of the recent public polls of the incidence of the common cold--the total is 4% of the habitual effort of the aggregate population inhibited by sickness each year. But the 400,000,000 man days lost by the industrial population of 16,000,000 who are exclusively in war work is only an 8% loss. At best, therefore, about half of the much-deplored absenteeism is attributable to sickness, with probably half of that, or less, in any way preventable, And thus,

Second, not all absenteeism is due to sickness. Some of the other causes,--the influences of holidays, events, "economic considerations, specific fiscal arrangements, and the point of view of the community," etc.--were outlined by A. T. Court, of General Motors, in "Industrial Medicine" for June, 1942. Development of his studies shows still another cause, involved in the continuity of work. With the percentage of absenteeism at X when the work week is five days of 10 hours each, it jumps to X-plus when the work week is seven days os seven hours each. An inevitable amount of absenteeism is inherent in the natural and native common sense of the individual, who knows betetter than anyone else the pace of his best efforts. "A good worker will take a rest anyhow whether you give it to him or not." The trouble with this factor of the so-called absenteeism total is that the pace-adjusting rest period of the capable worker is not absenteeism in the sense that it should be counted as such. This non-medical phase of the problem is now being further carefully investigated.

Third, it is erroneous to view the absenteeism loss of working time so wholly in terms of munitions, ships, planes, etc., not produced. As a matter of fact, there is no substantial interference with production from this cause. With absenteeism at 8%, production is maintained at 100% by keeping the payroll at 108%. This should be noted in connection with the careless comparisons of the time lost from absenteeism with that lost from strikes--the usual ratio being that the former is 64 times the latter. A strike ties up production; an absenteeism does not. Yet, in spite of solemn promises, the one is sacrosanct, while, in the face of natural causes, the other is a reproach. . . . . . .

MM

# THE PROBLEM OF ABSENTEEISM

Source: The Ministry of Labour Gazette

Some of the common causes are (a) sickness and injury of the worker or of some member of the family for whom the worker has to care, (b) shopping difficulties, (c) the requirements of the family and home, e.g., the care of children, preparation of the meals, house-cleaning, etc., and (d) lassitude or fatigue due to long hours combined with long journeys. There are also various psychological causes, including depression in permanently "blacked-out" factories and, perhaps the most significant of all, the lack, due often to ignorance, of real interest in the job and of conviction of its importance and urgency. Experience shows that the workers in general respond in increasing degree to the incentive of interest when they are made aware of the part their particular job plays in the final product, and it is hoped that the new production committees will be useful in this direction. The Ministry of Labour and National Service is convinced that a real effort by industrial management to attack the psychological causes of absenteeism in the greatest single contribution that can be made to a solution of the problem.

Another important contribution that managements are urged to make, wherever possible, consists in the arrangement of the "planned" hours of working of individuals or of sets of workers with some regard to their personal convenience. At present as a whole, and in present conditions much greater flexibility of organisation is needed to meet the special circumstances of married women with young children, for example, or of workers who travel long distances.

The first step in the direction of that control is for one person of senior status in each factory (assisted as may be necessary) and capable of a tactful and understanding approach to the individual, to be allocated specifically to deal with all absences, and for the existence of that arrangement to be made thoroughly known throughout the factory.

The second step is to ensure that the extent of absenteeism is known, together with its causes.

It is of primary importance that in their efforts to deal with absenteeism and persistent lateness, whether culpable or not, managements should maintain close consultation with the representatives of the workers.

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U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

# REDUCING ABSENTEEISM
## A Simple and Successful Scheme

Source: Engineering Bulletin, No. 16, September, 1942, p. 216. (London)

Absenteeism can only be successfully dealt with when its cause is known. It therefore follows that some method of investigating causes of absence is necessary. The following account tells of a scheme instituted by a famous Midlands firm of machine-tool makers. It has given very satisfactory results, and may be helpful to other managements.

When a worker stays away his clock-card is removed from the rack (about an hour after he was due to clock in with it) and a special card of a different colour is substituted. On his return the worker clocks in on this coloured card, stating on it the reason for his absence.

The worker takes the coloured card (with medical certificate, if he has one) to his foreman, who discusses with him the reason for absence or lateness. The foreman then hands him the usual clock card, which is returned by the worker to the rack.

After the foreman has added his own observations on the special coloured card, it is sent to the firm's Labour Office. A time clerk from the Labour Office takes the special coloured card to the rack, and transfers the clocking-in time from it to the usual card. Afterwards the various reasons for absences are sorted and classified, and a weekly statement is prepared showing the percentages of males and females absent, on days and nights, and the reasons--certified illness, casual illness, transport failure, absent without good reason, and so forth. (This weekly return can easily be amplified as necessary--e.g., to show the percentage of time lost by married women, as against time lost by single women.)

Copies of the weekly statement are circulated to all the firm's officials who are concerned with the reduction of absenteeism. One copy goes, of course, to the Works Medical Officer so that he may be kept acquainted with the percentage of workers away through illness. The special cards notifying sickness, together with medical certificates where provided, are also passed to him immediately they have been dealt with in the Labour Office.

This enables the Works Medical Officer to build up a card index showing a health history of each employee, and also to obtain early information of any sickness that may be on the increase. Such information may well prove valuable in giving timely warning of an epidemic, and so enable prompt action to be taken, including notification to the Medical Officer of Health.

The fact that the scheme causes workers to visit their doctors more often, and earlier in the illness, is all to the good. And another advantage is that the Works Medical Officer may discover from his records that colds, eye strain, sore throats, etc., are prevalent in a certain part of the works, and he can then take action accordingly.

It will be seen that, on health grounds alone, the scheme is well worth the little extra trouble involved. It is useful, too, in showing up transport difficulties or other adverse circumstances which employees may be encountering.

If employees are persistently late, an offender receives a letter from the firm warning him that unless there is an immediate improvement the matter will be reported to the National Service Officer under the Essential Works (General Provisions) Order, 1941. Since the inception of the scheme the amount of time lost has been reduced at all the firm's factories. Moreover, it is most satisfactory for all concerned to realise that "absenteeism" is not always the fault of the worker.

From E.C.

U. S. Department of Labor
WOMEN'S BUREAU
Washington

# TURNOVER AND ABSENTEEISM OF WOMEN WAR WORKERS

## Turnover

There are no periodic statistics on turnover for men and women separately. The Monthly Labor Review gives tables on monthly labor turnover for selected manufacturing industries, but these are not by sex. Some first-hand comments from visits Women's Bureau agents have made to plants in war industries in general add up to "low" or "negligible" or "inappreciable" for women, but "high" for men for "military reasons." Occasional plants report high turnover for women, and in these isolated instances the reasons given are lack of facilities for child care, transportation difficulties, low wages compared to neighboring plants, and so on. One plant said that it didn't get enough Government orders to make overtime work necessary, and the women left to go to other plants where overtime was common as they wanted the extra money.

## Absenteeism

There is nothing from Women's Bureau statistical surveys on absenteeism as between men and women. There have been a few newspaper stories quoting Manpower officials - the Baltimore Sun for January 5th had an AP story from New York quoting Mrs. Rosenberg on the subject of greater absenteeism for women, and the Christian Science Monitor for December 17, 1942, under a Chicago date line, had a similar story from another regional Manpower official.

Information from the office of the labor-management committees in the War Production Board (labor production division) indicates the trade unions are actively interested in the greater absenteeism in the plants, and instances given of action they are taking are as follows: The union issues pledge cards for members to sign; in cases of flagrant continual absenteeism by a member, the union makes an investigation; the union makes a survey of all its members in the plant for information on causes for absenteeism; and so on.

Some absenteeism of course is due to the lack of organized fcommunity facilities for the married women who are now in war plants, and whoseproblems regarding marketing, shipping, laundering, cleaning, and day care of children are yet unsolved.

In the New Jersey study of war plants made by the Women's Bureau in the summer of 1942, although no statistical data were obtained on this subject, personal comments to our agents centered on the young women workers. It was stated that when they were on the 4 to 11 p.m. shift they showed some considerable absenteeism, especially on Saturday nights - going out for their lunch time at 7.30 and just not coming back. In fact this second shift was considered the "problem" shift for girls because of their higher absence rate.

Absenteeism due to illness would be weighted in favor of men, as records in general show women are absent more often than men due to reasons of ill health.

Robinson - Nyswander

PRODUCTION SERIES NUMBER 141

# ASSIMILATING WOMEN WORKERS

# REDUCING ABSENTEEISM

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330 WEST 42nd STREET, NEW YORK, N. Y.

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These papers were presented at the Fall Production Conference of the American Management Association, held at the Hotel New Yorker, New York City, November 10 and 11, 1942.

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# WOMEN IN THE FACTORY

## A PANEL DISCUSSION

INDUSTRIALLY speaking, women are just small men. They can handle any job which does not require great physical strength, and the problems involved in employing them differ in degree, rather than in kind, from those involved in employing men.

Speaking at the panel session on "Women in the Factory," which was a feature of the AMA Fall Production Conference held in New York, November 10 and 11, experts from both government and industry concurred on that point. But they also agreed that no plant can turn "men's jobs" over to women without careful preparation, and that a job analysis is essential to determine how much training the women will need and where the heavy work can be eliminated. And if industry is to attract women in greater numbers, one panel member warned, employment departments will have to mind their manners better than they have been doing in the past.

Samuel L. H. Burk, chief job analyst, The Atlantic Refining Company, Philadelphia, presided at the session and introduced the panel speakers who included: Mary Anderson, director, Women's Bureau, U. S. Department of Labor; David Mack, employment manager, Wright Aeronautical Corporation, Paterson, N. J.; James M. Talbot, vice president, The S. S. White Dental Manufacturing Company, Staten Island, N. Y.; Esther R. Becker, staff assistant, Training Within Industry, War Manpower Commission; and Ellen M. Davies, personnel manager, Waterbury Manufacturing Co. Plant, Chase Brass & Copper Company, Waterbury, Conn.

### THE OVER-ALL PICTURE

Any plans for compulsory registration, said Miss Anderson, who presented the over-all picture, must be considered in the light of three facts: (1) There are still at least 700,000 women unemployed and seeking work; (2) training and jobs must be provided very soon after registration, or women will come to think that they are not wanted after all; (3) labor shortages exist only in certain areas.

Women with children under 16, she declared, should be employed only when other sources of labor are exhausted. Women whose jobs have disappeared because of war curtailment, girls just out of high school and college, married women without children, and married women with children over 16 should all be utilized first, she said, and age barriers should be dropped. "Women over 35 are far more valuable to industry than management has realized. They are steadier and more mature than very young workers, and they are by no means decrepit."

Where women with young children must be employed, she continued, provision should be made for day nursery care, and a number of federal agencies stand ready to assist local communities and state agencies with this problem. Among them she cited the Work Projects Administration, the Children's Bureau of the U. S. Department of Labor, the U. S. Office of Education, the Farm Security Administration, the Bureau of Public Assistance of the Social Security Board, the Office of Civilian Defense, and the Office of Defense Health and Welfare Services.

Further to aid women who carry heavy home responsibilities in addition to their jobs, Miss Anderson recommended that community kitchens be set up in industrial neighborhoods, and that management give consideration to possibilities of staggering hours to permit marketing, of allowing workers to place written orders to be delivered at the factory, and of providing special laundering facilities, public or private, where employees can get work done at reasonable cost.

Minimum standards within the plant, according to Miss Anderson, should include: (1) A maximum workday of eight hours, and a maximum workweek of 48 hours, with at least one day of rest in seven; (2) regular rest periods of from five to ten minutes in the middle of each four-hour work stretch; (3) at least 30 minutes for lunch; (4) vacations; (5) pay for the job and not lower pay because they are women.

"It is recognized," she said, "that in the emergency war contractors may sometimes need to employ women longer than 48 hours a week, or on night shifts in states with laws prohibiting such practices. Some months ago the Women's Bureau recommended that certain emergency procedures be followed by state departments of labor to safeguard the legal standards by permitting certain adjustments in individual plants for a limited period for women on war work, if investigation proves this necessary. Such adjustments can be made for the emergency without repealing any legislation."

### SOME PROBLEMS

"It seems to me," said Mr. Talbot, "that any questions regarding women in industry are pretty well answering themselves. The obstacles which have loomed up before us are proving to be bugaboos. Not that there are no problems to solve, but they are not such as to cause great concern.

"Actually, what we are doing in hiring women is, in effect, hiring small men. The average height of women is 5′3″, that of men, 5′8″, while women's weight averages 132 pounds as against 157 pounds for men. Women, then, can do work commensurate with those figures—sheet-metal forming, riveting, spot welding, and operating light turret lathes, automatic and handscrew machines, wood-working machines, electric cranes, etc.

"Women have, in fact, some advantages over men. They are more amenable to discipline and direction. They are especially adept in light, repetitive work. And they are not so apt to change jobs—although I have heard it said that their shopping instinct sometimes keeps them looking around for better bargains.

"The question of rates of pay is perplexing many of the old-line companies in which there has been general acceptance of a differential by both labor and management. It is apparent now that rates of pay will have to be determined by job evaluation, rather than by sex; or, to put it another way, equal wages will have to be paid for equal performance. And 'equal performance' can be determined only by careful study: Has the lifting been eliminated? Has the original job been broken up into simpler ones? Do women do the same amount of setup as the men did? Those questions must be asked, and the answers will affect the rates of pay.

"Naturally some allowances must be made. Most girls coming to work for the first time have had no previous experience in mechanical work, and for that reason it takes longer to train them. They have not been accustomed to prolonged intensive work. Their hands are soft. And not only, on the average, are they shorter and lighter than men but, for the same weight, a woman can lift only 50 to 60 per cent as much as a man.

"Changes in working conditions may be necessary because of such facts as the following:

Women's pulse rate is higher than men's.

The capacity of their lungs is much smaller, and their respiratory rate is higher.

Their skin is thinner, more delicate and more easily abraded.

Their blood pressure is higher.

Their muscles and bone structure are smaller, and they have more fat in proportion to their muscle—the percentage is 44 per cent for women to 30 per cent for men.

They have a better adaptation of skin temperature to meet thermal changes in environment.

Some women must take a day or two off every month.

Women fatigue more easily than men. Attention must be given to the amount of effort required by the job, and the continuity of effort required. It must be remembered also that fatigue of one part of the body fatigues the whole.

Then, as a rule, a woman has a double job. Generally she is housekeeper and mother as well as factory worker; and childbearing, too, may be added to the load.

So it is not strange that special provision must be made when women are to be employed. Optimum working hours, health and safety programs, adequate restrooms must be provided. But this is small penalty to pay for the services of that vast body of loyal women who are ready to pinch hit for the boys who are out on another important job."

## THE ATTITUDE OF THE WOMEN

Some of the reasons why women have been less than eager to rush into war industries were reported by Mr. Mack, who drew his facts from a survey in northern New Jersey, conducted for the Wright Aeronautical Corporation by Hauser Associates. "Results of the survey," Mr. Mack declared, "were somewhat of an indictment of our own employment practices, at least insofar as they might be helpful to us in hiring women. I quote:

> Although women are generally vaguely aware of an impending manpower shortage, practically none of them feels that the situation is critical at present. A majority professed their patriotic willingness to take war jobs when they are needed, but they are aware of no such need at present.

"That surprised us, and it interested us. Possibly we have been depending on the classified advertisement page too much. The housewife, whom we must get into the factory just never has occasion to read the classified pages. A second point:

> Women's failure to appreciate the actual need for workers is also due in part to confusion resulting from misunderstanding of help wanted ads and to applicants' unpleasant experiences at employment offices. There are still many barriers raised in the path of the applicant. This being true, women are not to be blamed for concluding that companies cannot be experiencing any labor shortage so acute as to make it necessary or desirable for the untrained, unskilled housewife to offer her services.
>
> A radical revision of method and attitude is indicated. Procedures must be judged in terms of the applicant's reactions. Applicants must not be permitted to leave with the feeling that they have been given the brush-off which has been typical of employment offices for so many years.

"That struck home. We have been dealing, even recently, with a labor market of men, many of whom were accustomed to fighting for jobs. Now, suddenly, we are faced with a labor market of women, many of whom never had occasion to go out and look for work before. They simply are not used to the sort of treatment we have been in the habit of according applicants.

> Women, in general, know little or nothing about the types of jobs available, the nature of the work, the employment requirements, the sources of training, the working conditions, or even the contribution to the war effort which they might make by taking jobs. There is a tremendous need for public education on these points.
>
> There is little or no positive social pressure on housewives to take war production jobs and there are two important factors, entirely apart from the nature of the work, that restrain them. These are the responsibilities and demands incident to caring for home and children and the loss of personal prestige involved in going to work or in going back to work.
>
> The problem of the loss of personal prestige involved in going to work or in going back to work is particularly important to a large group of housewives in the lower economic brackets who were "working girls" before their marriage. These women have now achieved homes and families of their own, and are inclined to pity those less fortunate friends who have never achieved such security or who had to go back to work after marriage. Yet these same women are not unaware of the money to be earned in war industries, and as a group they would probably be desirable employees because of their previous work experiences.
>
> Then there are a number of girls and women now employed in non-essential industries who are generally receptive to the idea of working in war industries and who could be recruited. But their interest is not yet great enough to cause them to go to the inconvenience of job hunting. Many of them feel that they simply cannot afford to give up their present jobs, train for a period of weeks, and then take chances of getting a job which they might not like if they got it.

"In other words, we must make it easy for them to come to our doors or they will not come. They have to be given enough facts about the work and about working conditions to decide for themselves whether they want the jobs offered."

## WHAT WORK CAN WOMEN DO?

The only jobs that women cannot do, according to Miss Becker, are those that require heavy lifting and carrying. "The real difference between men and women in industry," she said, "is in the ability to lift and carry. But we all know that jobs can be broken down so that some of the heavy work is eliminated or that mechanical devices can be employed."

Miss Becker had just completed a two weeks' survey of women's work in critical war production plants in New Jersey. She found each plant using women on some unusual job, although there was no consistency in the type of work to which they were assigned.

"In one plant," Miss Becker said, "women were driving all the trucks for delivery. In another, men were still driving small handtrucks inside the factory. Again, I saw two girls with only high school educations in charge of a laboratory, while in another plant men were doing all the X-ray work.

"At the Picatinny Arsenal, where 50 per cent of the 15,000 employees are women, it has been found that they can perform every single shell-loading operation. In another, a small-arms ammunition plant, women operate the two-story punch presses, turret lathes, automatic screw machines, and milling machines, set up machines, and do lapping and honing operations in the instrument repair shops as well as repair work on micrometers.

"In most plants women were working on milling machines, turret lathes, and drill presses, and doing riveting as well as inspection and gauging.

"Women have proved that they are capable; that they can acquire skills; that they will work on jobs which are dirty or smelly if working conditions are fair; and that they do not lack stamina. They will give you the answer to the manpower problem.

"Women ask that war industries select, hire and train them, and place them on the more difficult jobs under average working conditions and at fair wages; they believe it is their job to help win this war. They have no other, ulterior motive. Most of them would prefer housework or office work. They will return to those jobs just as soon as the war is over. They ask no quarter—just the opportunity to prove that they can take over for the men and boys who, because of tradition, are sent out to fight for the same laws and the same principles that both the men and the women of this country believe in. Will industry give women a chance to prove their patriotism by letting them do more and more of those jobs that have been earmarked 'for men only'? They can do those jobs and do them well."

## SELECTION AND HIRING

Older women, physically handicapped women and colored women, groups whom industry has cold-shouldered in the past, all make good employees, Miss Davies declared. Nearly 40 per cent of the factory workers in Miss Davies' plant are women, and there are sizable numbers in all three groups employed there.

"Older women," Miss Davies said, "are one of the best sources of leadership material for supervisory or administrative jobs. Many of them have had executive experience in club work or as teachers before they married, or have done some other work which fits them for leadership in industry.

"As to physically handicapped women, there are many jobs which they can do. In our plant, for instance, we have several paralysis victims who cannot walk far or well but whose finger dexterity on assembling is excellent. We also have a blind girl who is doing a splendid job of gauging automatic screw machine parts.

"Our experience in employing colored women has been favorable. They show greater interest in pre-employment training than white women and are more dependable in some ways and less given to absenteeism. They are not, as a group, particularly accident-prone; and they seem more willing to assume heavy-duty jobs than white women. They appear less likely to be allergic to oils and other lubricating materials and can stand heat better than white women.

"Once the women are selected, however, another problem arises. How do you get them into departments where they have never worked before? When the time came to introduce women into parts of the shop where they had not been used before, I talked it over with the foremen and some of the older employees. I gave them a very graphic picture of what their department was going to look like by the time Selective Service got through with it. Then I said to them, "What are you going to do? Whom are you going to use?" That was the most compelling argument.

* * * * * *

**Question:** Did women take over men's jobs intact in your plant, Miss Davies, or was re-engineering necessary?

**Miss Davies:** Some of the jobs have been taken over intact. For instance, we have hired women as feeders on the Brown & Sharp automatic screw machine operations without making any changes in the job. In the toolroom, on the other hand, we have assigned women to such operations as lathe operating, milling and drawing, which are parts of the over-all toolmaker's job.

**Conferee:** Was the strength factor the only one considered.

**Miss Davies:** Yes.

**Miss Becker:** And so far as unskilled people are concerned, a job must be broken down just as much for an unskilled man as for an unskilled woman.

**Question:** Would it be profitable for a plant to start training women without previous experience with tools and/or machines? Is instructional material for such training available, and where?

**Miss Becker:** In Jersey, more than 1,000 women have completed the Job Instructor Training program sponsored by the Training Within Industry Division of the War Manpower Commission, and are passing on what they already know about the jobs to the unskilled women working under them. We have a great many testimonials telling how effective the training has been.

About 200 women have completed the Job Method Training course, and some of the job improvements which they have turned in are amazing. Some of them have made possible savings of 50 per cent or more in manpower, machines and materials. Vestibule training has also proved successful in many cases.

**Chairman Burk:** Training Within Industry will send instructors into your plant to provide Job Instructor Training or Job Methods Training, and will shortly be prepared to provide instructors for Job Relations Training. In addition, there is the Engineering Science and Management War Training Branch of the U. S. Office of Education, which will provide instructors in any subject—from production and engineering to industrial psychology, including job analysis and methods of handling workers—if you can provide 20 or more people per class. For smaller plants, "open" classes are available in which people from many firms can receive similar instruction. E.S.M.W.T.B. classes are given at the college rather than the vocational school level. Both of these agencies operate without cost to student or employer and the instructional staffs are drawn from industry.

**Question:** Is there any movement to get states to allow women to work seven days a week?

**Miss Anderson:** I don't think so; nor do I think it wise for anybody to work seven days a week. There is bound to be absenteeism on a seven-day week, and the fatigue which results from it is not conducive to all-out production.

**Mr. Talbot:** Might it not be better for women to work a seven-day week with a shorter working day? This would give them more time for their home duties, and so reduce absenteeism and turnover.

**Miss Anderson:** With a six-hour day, a seven-day week might be feasible.

**Mr. Mack:** Wouldn't a four-hour shift attract more women to industry?

**Miss Davies:** We are experimenting with that. We call it the "share-shift plan." Several professional men come in and work four hours a day, and I am now interviewing women for jobs of that sort. But we seem to have a little difficulty in the fact that they all want the 7 to 11 shift, instead of the 3 to 7.

**Question:** Is it necessary to change employment forms, routines or tests when women are to be hired?

**Mr. Mack:** There is a definite indication that women prefer to be examined by women doctors. That seems to be important.

Changes may be needed in the application blank also. Many of the women we must recruit now seem to suffer from a feeling of inferiority because they lack experience. It might be desirable to change the wording on the blank, or to revise the format in order that the woman who has no experience may not feel that she is at a disadvantage. I should like to ask Dr. Paul Achilles of The Psychological Corporation to answer the question about tests.

**Dr. Achilles:** The same tests that are used for men can be used for women. On the mechanical comprehension tests, of course, it may be necessary to adjust the score, because often these tests deal with situations with which women are not familiar.

**Question:** Many companies state that they pay equal rates to women and men provided performance is equal. In actual experience, however, it is difficult to find any specific cases where such companies do rate performance and where, therefore, the wages are equal. We should like to know how the principle of equal pay, which is receiving so much attention now, is applied in practice.

**Chairman Burk:** The first thing that must be established is whether the job is the same job or not, whether it takes the same skill, the same training, judgment and physical effort and is performed under the same working conditions. Then there must be some method of measuring performance—that is, merit rating.

However, some of the questions submitted indicate a belief that there should be a wage differential because overhead costs often rise when women are hired (because of the increased absenteeism and necessity for rest periods, for instance). Also, it has been claimed that common experience indicates that it often requires three women to do the work of two men. However, it would appear that these are matters of opinion rather than demonstrable facts; and if differentials are to be acceptable, they must be based on fact.

**Conferee:** We have to face the fact that we must pay women men's wages for men's work, regardless of whether the work is done so effectively or not and even if the overhead is higher.

New companies which have always paid women and men the same rate have had no difficulty. But older firms have had a wage differential in the past, because they employed women only on jobs which were supposed to be "women's jobs" and which called for a lower rate. But now the women are doing the "men's jobs," many of which turn out, when evaluated, to be not so very different from the "women's jobs." This is causing discrepancies which it will take time to iron out, but eventually we shall see wage differentials between equally evaluated jobs eliminated.

**Miss Anderson:** Everyone knows how I feel. Women should get the same pay as men. It has been proved that the production of women is just as good as that of men—even a little better in some cases. And I would go even further and say that women should receive the same entrance rates as men. When a new man or boy goes on a job, he knows no more about it than a newly hired woman.

There are, of course, jobs which have been traditionally known as women's jobs and are seldom considered worth equal pay. It is a little harder to settle the equal-pay question on those jobs, but there is a great deal of unrest in a plant which has differentials of any kind. The men feel that the women have undercut them and they are afraid (I am not talking about the justice of the thing but about what the workers think) that, after the war, when there is a scarcity of jobs they will have to take any job they can get even if the rates are lower.

It seems to me that where there is a wage differential—amounting in some cases to 10 or 20 per cent—management is courting trouble. If it were not for the fact that labor has agreed not to strike, there would be a great deal of trouble at the present time.

**Question:** Can a plant's upgrading system be applied to women workers?

**Miss Becker:** Of course it can. But there is one factor which must be taken into consideration in upgrading women to supervisory positions: Many of them have not had the years of experience that men promoted to the same positions have had. They have not, specifically, had the experience in dealing with human relations problems, and need more training in that respect.

**Question:** What are the most satisfactory daily and weekly hours of work for women? Has it been found desirable or practical to employ women on night shifts? What can industry do if it needs women to work on 55-hour weekly schedules in jobs previously handled by men?

**Mr. Talbot:** The shifts recommended by the New York State Department of Labor are from 6 a.m. until 2 p.m., from 2 p.m. to 10 p.m. and from 10 p.m. to 6 a.m. The idea is that this schedule allows women to sleep either in the evening or at night.

**Conferee:** The State Department of Labor may recommend those hours, but the fact remains that women do not like them. If a shift starts at 6 a.m., the women may have to leave home as early as 4:30. There is slim chance of interesting a woman with children to get off to school in a job which compels her to leave home at 4:30 or 5 in the morning. The hours they do like are 8 a.m. to 4 p.m., 4 p.m. to 12, and 12 to 8 a.m.

**Miss Anderson:** State departments of labor have been very liberal about granting longer hours than the law allows, and every state in the union which has a night-work law has allowed women to work on the night shift. But, of course, when an employer applies for a permit to lengthen women's workweek beyond the legal limit or to employ women on night shifts, he will be investigated. No permit will be granted unless the work is war work. Then other possibilities will be considered: Is there anything else the employer can do to maintain production besides lengthening hours? Is there space in the factory for additional workers? Also, longer hours should not be allowed permanently, but only until the employer can get production going. Then he should, if possible, institute a 48-hour week, which is recognized as the most productive.

**Question:** Are there any statistics on the relative amount of production turned out by men and women and on relative accident rates?

**Miss Davies:** There are no statistics on either point for the whole country. In our own plant, I should say that women's production records on jobs formerly held by men are very good—in some cases the women do better than the men, although that is probably because they are doing something new and find the jobs stimulating. As far as accidents are concerned, I do not believe that women are more accident-prone. All new workers, men and women, are apt to need more frequent first-aid attention.

**Question:** Is there any advantage in requiring women workers to wear uniforms?

**Mr. Mack:** The problem of uniforms for women is merely the problem of safe dressing. Women are new to factory work, and therefore are not used to considering dress from the safety angle.

In our own company, when we first began to hire women, several of us males got together and decided what uniforms the women should wear. It was a wise decision all around, and everything went along well. The women seemed to have no objection to our choice.

Recently, however, when we began a drive to get more women to come to work for us, this same group sat down at a table and decided unanimously that the uniform should be glamorized through consultation with a costume designer. But when we invited three young ladies who had recently joined the personnel department to sit in on the discussion, they were amazed and amused to find us going to so much trouble. The women's attitude was, in fact: "We don't care what we wear—overalls or anything." Actually, it turned out the whole question of uniforms was one of extreme interest to the male of the species but of relatively little interest to the female.

**Miss Davies:** I think women, as a group, dislike to be regimented in the matter of dress, particularly if men tell them what they are to wear. We have not been very successful in getting our women into slacks simply because there is such a wide range of sizes. A size 12 looks all right in slacks, but a size 48 or 52 looks a little funny. So I think that whole question of uniforms for women had better be forgotten, temporarily at least.

**Chairman Burk:** Consideration must be given to materials. There was one manufacturer who, after uniforms had been introduced, found that the women were becoming fatigued more easily and that many of them were fainting. The uniform was made of a kind of cravenette which effectually shut off all circulation of air. If you are going into the matter of uniforms at all, be sure to get the advice of somebody who knows textiles.

**Question:** What about the discipline problem? How are women kept from talking during working hours? And is there a morals problem when men and women work together in the shop?

**Mr. Talbot:** There is of course a discipline problem, but the same problem exists with men workers; and the morals problem exists in all of society.

**Chairman Burk:** We have had men and women working together in offices for years without any particular problems arising. When I made that statement not long ago, someone remarked, "Yes but you have no dark alleys in offices." But I wonder why we should have dark alleys in factories. Certainly they are not representative of the proper kind of working conditions.

**Question:** Is average turnover higher for women than for men?

**Miss Davies:** Last year, at a meeting of this association, Dr. Millicent Pond of the Scovill Manufacturing Company reported that there was no difference in the turnover rates of men and women. And while I personally have made no statistical study, it is my opinion that where turnover among women is greater, it is because of problems connected with their homes rather than because of job problems. Neither should I say that women are any more prone to absenteeism than men, except for the fact that home emergencies may arise.

**Question:** If the women we wish to attract to the factories cannot be reached through classified advertisements, what media will reach them?

**Mr. Mack:** We are still floundering on that. There are possibilities in a campaign of newspaper and magazine publicity. Then we are seriously considering establishing employment information centers in stores near the plant, centers where women can find out about working in war plants—what they will have to do and how they can go about getting a job. We have also discussed the possibility of exhibiting movies in the local theaters and of using radio publicity.

**Miss Becker:** In New Jersey, the U. S. Employment Service has prepared a small leaflet which shows the need for workers of various types. Insurance agents who call at the homes are distributing it.

*The plague of absenteeism which is now sweeping war plants must be cured, or at least held in check, if the war effort is not to suffer. Because of the importance of the problem at this time, AMA devoted the final afternoon of its two-day Fall Production Conference, held November 10 and 11 in New York City, to a panel discussion of possible causes and remedies. Five executives, all of whom had made considerable study of the matter, gave their recommendations, which are presented herewith.*

# INDUSTRIAL ABSENTEEISM

By A. T. COURT
Labor Economics Section
General Motors Corporation
Detroit, Mich.

AN increasing burden of personal lost time has usually accompanied periods of full employment in the history of modern industry. During the height of the previous World War effort, absenteeism from shipyards averaged 20 per cent and, as Chart I shows, absenteeism had begun to cut down the efficiency of American industry about the time we entered the war. Recently the press in Britain has discussed at length special measures designed to deal with excessive lost time there. Findings are worthy of serious study.

We in General Motors* have seen short-term absenteeism double during the last 15 months. Today, our individual plants show total lost-time rates varying between 2 and 6 per cent. The importance of this problem is apparent when one considers that a 5 per cent loss of time for personal reasons may reduce production 15 per cent or more, because the absence of individual specialists breaks up the balance of skills necessary to secure maximum group efficiency. Modern American industry with its highly tooled, closely scheduled operations, naturally suffers more from a given proportion of unscheduled absences than would less fully developed manufacturing.

## THE HEALTH QUESTION

The first question which arises is that of the workers' health. Specifically, does this increased absenteeism reflect generally poorer health? Although short-term personal lost time has doubled at General Motors, serious sickness of more than a week shows no upward trend. Before reaching any conclusion, it is necessary to remember that in normal peacetime years there is usually a summertime decline in sick disability rates. Relative to the normal seasonal

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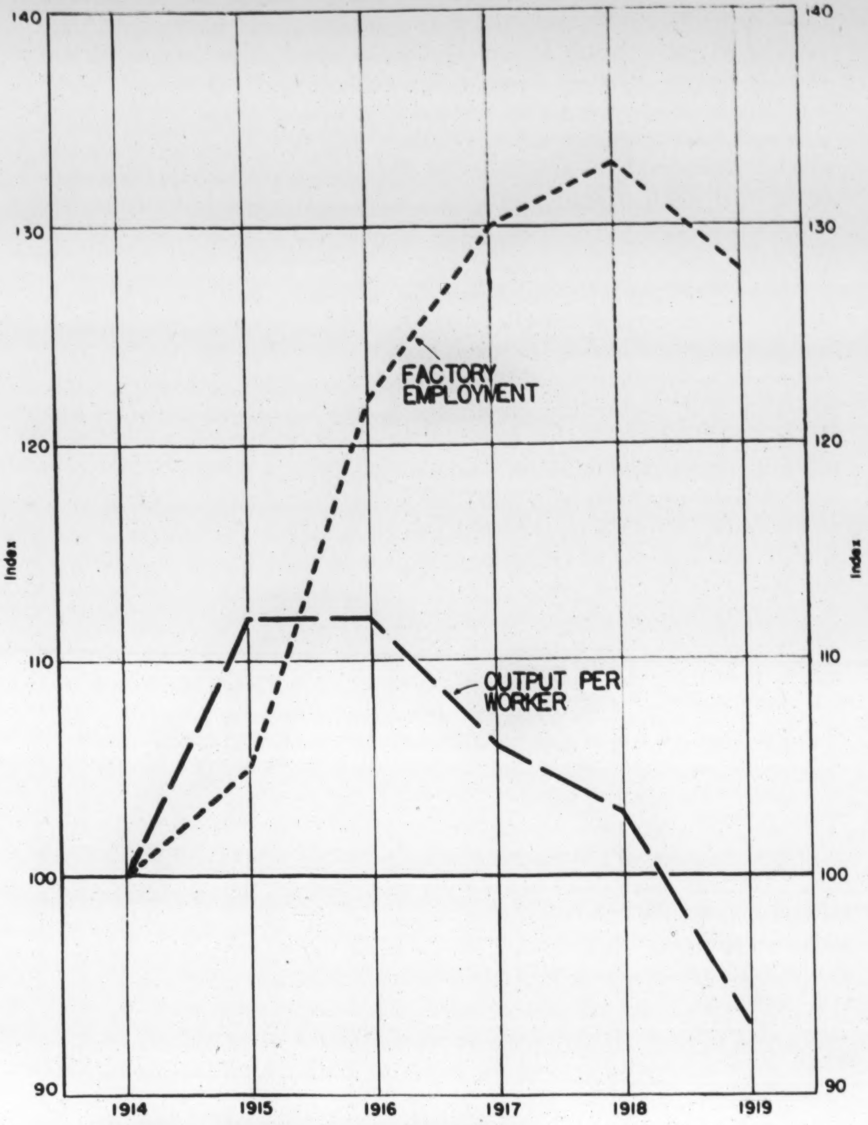
* Although many of the figures refer to General Motors, the comments and opinions are entirely my own.

# EMPLOYMENT & OUTPUT during WORLD WAR I



Source: P. H. Douglas, "Real wages in the U.S. 1890-1926."
Production index—National Bureau of Economic Research.

CHART I

pattern, we may be witnessing the first signs of a significant increase in more serious sickness absenteeism. It is too early to say definitely.

We are fortunate in the fact that this country has, so far, escaped war-borne epidemics, drastic restriction of food supply, or any widespread serious overload on public health or sanitary facilities which might increase the toll of truly serious sickness. There is, however, one potential shortage which may have a serious effect on the problem of sickness absenteeism unless dealt with on a most intelligent and sober basis. That is the shortage of doctors which is threatened because of the needs of the Army, and the expanding civilian demand which is developing as the incomes of substandard families are raised and as participation in disability, hospital and surgical benefit plans is broadened.

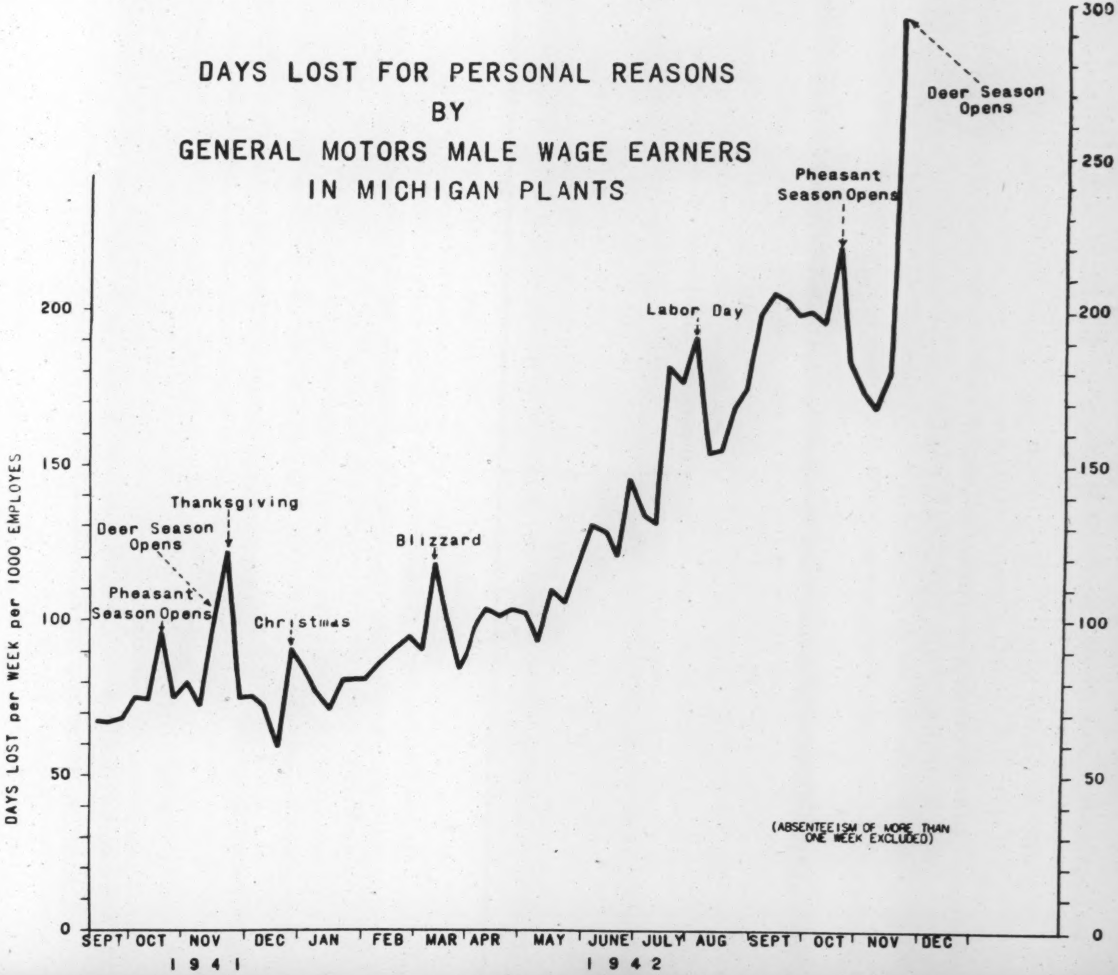
For several years, General Motors has offered its employees a program of hospital and surgical reimbursements in addition to disability compensation, and the excess of General Motors rates is concentrated in those disabilities subject to operative repair. The fact that General Motors operative rates are substantially higher than the national average for similar industrial employees, combined with the fact that the incidence of General Motors operations is heavily concentrated in certain localities and in certain seasons of the year, suggests that repair facilities may be loaded with a substantial number of borderline cases. Marginal repairs which can be delayed at the expense of discomfort only must not be subsidized if the medical profession is to stand the load during the next few years.

Chart II suggests strongly that a significant proportion of absenteeism is not the result of serious sickness. It is apparent that holidays and sporting seasons have taken their toll. It will be noted that although the Fourth of July and Labor Day of this year were reflected in considerable lost time, the Michigan pheasant season showed much less of a peak than it did in 1941. Perhaps the rain improved morale.

## HOURS OF WORK

Let us examine the relation between hours of work and personal lost-time rates. The next chart shows one dot for each General Motors plant. The horizontal positions of the dots reflect average weekly hours of work in the particular plant; the vertical scale, the personal lost-time rate. Obviously, there is little gross tendency for high absenteeism to be associated with longer hours within the range of plant averages—that is, from 40 to 55 hours per week. This gross comparison tends to substantiate the recent findings of the British Medical Research Council in "Hours of Work, Lost Time and Labor Wastage":

> The time lost due to sickness, injury, and absence without permission, when undisturbed by other extraneous factors, varied with the weekly hours of work. It was usually reasonably low when the hours of work were less than 60 per week, but was higher, and in some cases excessive, when the hours were from 65 to 73 per week.



DAYS LOST FOR PERSONAL REASONS
BY
GENERAL MOTORS MALE WAGE EARNERS
IN MICHIGAN PLANTS

CHART II

In this connection, it is instructive to compare the 55- to 60-hour conclusion of the British Research Council with the joint recommendation recently issued from Washington to the effect that "for wartime production the 8-hour day and 48-hour week approximate the best working schedule for sustained efficiency." This 48-and-8 conclusion is not confirmed by any analysis of actual experience, as far as I have been able to determine. It is in direct conflict with the detailed factual analyses recently published by the British. It does not agree with the indications of our records.

On the problem of optimum number of days of work per week, however, there is complete accord. The British researches, Washington officials, and our records agree that six days of work is the optimum, and that seven days solid, week after week, usually makes trouble.

For instance: On a continuously running automatic screw machine and assembly operation men in one section were scheduled to work seven and one-half hours for seven days and in another section seven and one-half hours on a six-day swing shift. The personal time lost by the seven-day men was about twice that lost on the six-day swing shift. In fact, the reduction in personal days lost offset about 40 per cent of the additional scheduled time off on the six-day workweek. Seven days every week is too much, even though daily hours are only seven and one-half. Thus the number of days of work per week are really more important than the hours. Ten hours for six days is frequently possible without serious loss in attendance or reduction in efficiency.

Another illustration is provided by a large munitions plant which schedules about half of its working force for six 10-and-one-half-hour days and the other half for six eight-hour days a week. Absenteeism is 5 per cent on the 63-hour operation, compared with 4 per cent on the 48-hour week, despite the fact that the average service record of the 63-hour men is much below that of the 48. In this connection, a number of observers report that the reduction in efficiency and increase in personal lost time resulting from continuous seven-day operation are a good deal more serious in highly repetitive operations than in work where the individual performs a considerable variety of functions at a slow tempo.

The relationship of absenteeism to change in employment is another factor. It is probable that a great majority of newly hired employees in our expanding plants are now making a great deal more money than they ever did before. In fact, the average weekly wage of General Motors male factory workers is about $55. This represents a 30 per cent increase over last year for the average long-service employee. For persons hired recently who worked for other employers in the same locality a year ago, our current wages represent a 100 per cent increase in income. And for persons who were on WPA or relief a year ago and those who have moved in from rural areas, the increase in earnings is even greater.

# PERSONAL ABSENTEEISM RELATIVE TO AVERAGE HOURS OF WORK

## AUGUST 29, 1942 - GENERAL MOTORS PLANTS

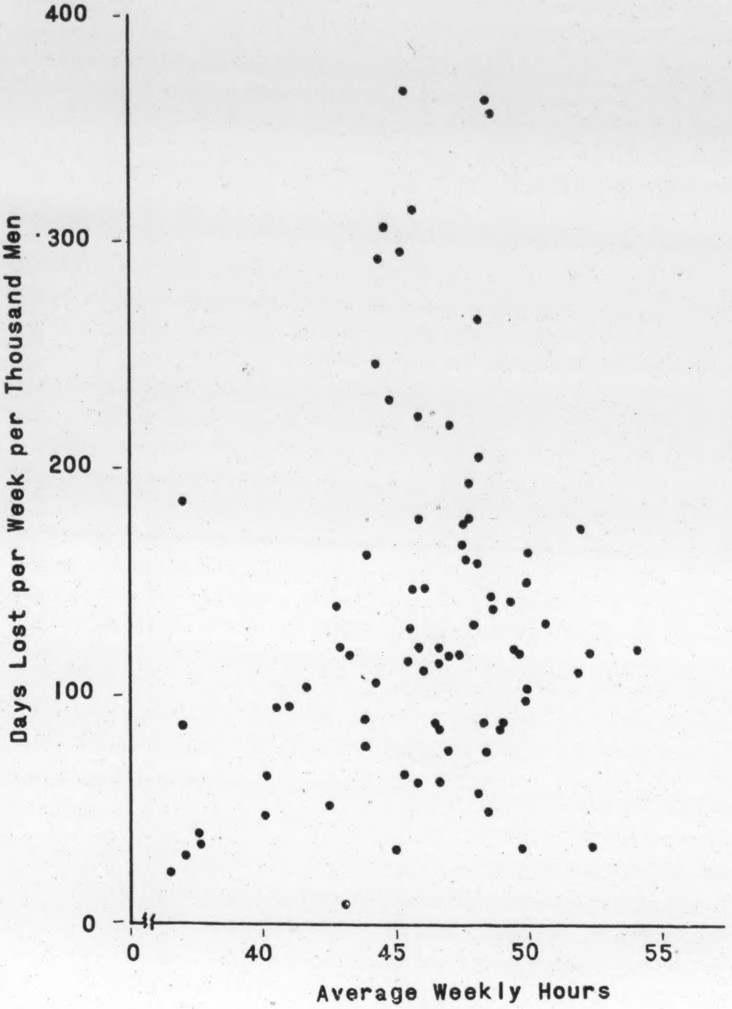


CHART III

In the lean days, most of these persons thought of increased incomes in terms of new durable goods or housing. Before the war, factory workers seldom saved against the abstract future. They saved to make the payments on a car or a washing machine, and these articles are no longer available. Even "in Soviet Russia, and to some extent elsewhere, workers have occasionally reached a point where they had little desire for higher money earnings, not because they were overworked or all of their consuming wants were satisfied, but because so few goods were expected to be available for purchase with the extra earnings." Today, workers are saving to buy bonds and help win the war. Is the bond-buying urge as strong an incentive to regular attendance as the necessity of meeting payments on a new car or washing machine used to be? When men miss time these days, they usually request that their weekly war bond subscription be reduced. It was more diffcult to brush off the collection agent from the finance company.

## WOMEN WORKERS

The previous discussion has been confined to time lost by men. From now on, in practically every factory, the proportion of women workers will increase substantially. In this connection, it is instructive to note that, although short-term absences have, in general, run about 30 per cent higher for women than for men, the same figures do not hold for recently hired workers. The women added during the last few months seem to be distinctly more stable than the new men. This is startling at first, but the logic of it becomes clear when it is considered that a large proportion of the few men available for employment today are habitual floaters, men who have had a long record of sub-marginal employment, or immature persons taking a fling at industry before the draft. On the other hand, many women applying for employment are turning to war production from homemaking or steady work in retail trade or service industries. Among our best and steadiest workers are women with close friends or relatives in a theater of war.

Among employees with long service records, personal lost time and, particularly, sickness lasting over a week take a larger toll of the women than of the men. Cancers and tumors, nervous and mental diseases, colds and influenza are among the disabilities commoner among women workers, and it is in those categories that new loads will probably face the industrial physician.

But does the higher incidence of disability apply to all groups of women? Scotch insurance records over a three-year period confirm the observation that women tend to be sick *longer* than men, but that in terms of the *frequency* of sickness *single* women do not exceed the male rates. The excess total female frequency is entirely due to the rather high rate for married women, particularly in the younger age groups. Single women were sick no more frequently than men.

The recent increase in marriages, however, combined with the necessity of drawing a large proportion of factory workers from former homemakers, makes the employment problems of the married woman increasingly important for industry. Another problem is: Should Army widows without children be considered married for statistical purposes?

### NO GENERAL ANSWER

Returning to the general problem of excessive non-sickness absenteeism, you ask, "What is the answer?" I don't know of a single direct, guaranteed way of attacking the problem. General Motors has not solved it. In both Britain and Germany there is fine or imprisonment for persons frequently absent from work without adequate excuse. Such punitive measures seem politically impractical in this country. It is certainly to be hoped that they will not be needed.

Among the many suggestions which deal with the problem of unnecessary personal absences, I might list a few—some of which have been tried in General Motors plants with varying degrees of success.

Among the punitive plans, the first that comes to mind is naturally the penalty layoff. It sounds absurd to lay a man off for being absent too frequently, but reports show that it may really be effective. Although people like to take time off at their own convenience, they dislike losing a day of work as a penalty. In fact, one of the amusing things about the whole absenteeism problem is the way in which bargaining committees, every member of which has lost a day or more during the past month, will argue vigorously about the undesirability of cutting the working time from seven to six days a week or of not working on some double-time holiday. Hooky is fun, and the more time a man is scheduled to work, the more opportunity that he has. Penalty layoffs can be an effective disciplinary measure if discipline is needed, and that is very seldom.

### FOLLOW-UP

The second approach is to visit men with bad attendance records and those who are out more than a day or two in succession. Many personnel men find these visits of simple inquiry about the worker's health quite effective in reducing the lost time.

Several plants report that various sorts of rather low-pressure follow-ups are effective. For example, telegrams to absent workers, a red notice in the clock rack when the man returns, telling him to report to his foreman for his card, and "Nazi money" in the pay envelope to cover personal lost time have all been tried.

### OTHER POSSIBILITIES

Another procedure consists of having persons returning from unexcused absences fill out a more or less onerous questionnaire. This is designed partly as a penalty and partly in an attempt to get some information concerning the individual's situation and reasons for his absence.

Then there is the system of keeping a public record of the individual's absences in the hope that the group can bring pressure on him if he falls behind too much. "Missing from Action" lists have been suggested.

A sixth and basic approach to the problem is through emphasizing the attendance record in connection with any discussions of promotion, transfers, assignments of desirable work, settlements of grievances, or other points at issue between the employer and the employee. Individual attendance histories are essential in making the employee realize that steady work is an important factor in getting ahead with the company—that absence *doesn't* "make the heart grow fonder."

Posters and other displays emphasizing the importance to the war production effort of regular attendance are frequently used, and award pins or certificates may be presented for good attendance records. Departmental contests also offer possibilities, and it has been suggested that individual products (if of sufficient size to be important) be named for workers with good attendance records. If many of the workers are mothers with young children, establishment of day nurseries should help.

The War Labor Board has recently made part of the wage increase awarded copper workers contingent upon the individual attendance and production records. Attendance bonuses are frequently discussed, but unless very carefully designed, they may work in reverse. For example, a man may get off to a bad start in the bonus period and be discouraged by his inability to participate in the award.

I have read the suggestion that halfhearted workers be reported to their draft boards. This doesn't seem fair to the Army. On the other hand, men with occupational deferments who are out too much should certainly be reported.

An increase in the straight-time hours of work under the Wages and Hours law, extended to modify conflicting union agreements, would forcefully put the individual on notice that the nation needed and expected more work per week of him. Such a change would clarify the recent public differences of Messrs. Roosevelt and Nelson on optimum hours of work. It would also reduce the inflationary gap of unspendable earnings.

If the income tax is to be collected from each pay in next year, the exact basis of levy may be important for absenteeism. A high tax above a minimum exempt weekly base could be expected to increase personal lost time. By contrast, a percentage levy on each week's earnings should stimulate better attendance while, going even further, a flat weekly tax deduction based on previous year's earnings would act as a powerful incentive to regular attendance.

John Stuart Mill early observed the basic importance of a cultivated desire for expensive living where sustained industrial effort is to be achieved. Mill pointed out that this importance of expensive tastes was particularly evident in the tropics where nature made existence easy and saving pointless. (A few generations later he would probably have included Social Security as a variety of tropical climate.) Taking this classic observation to heart, one employer of my acquaintance tells me how he reduced excessive absenteeism during the last war by encouraging the sale of expensive furniture to his factory workers on extended time payments. A second employer's retort was that a much simpler procedure would be to invite a few professional gamblers to set up a shop near the plant.

Irregular attendance is a complex phenomena, born of a great many factors. In its solution, management, workers, local authorities, merchants and owners of recreational establishments, wives and families can all cooperate.

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# THE FOREMAN'S PART IN PREVENTING ABSENTEEISM

By C. G. MITCHELL
Assistant Manager of Service
Remington Arms Company, Inc.
Bridgeport, Conn.

IT has been my experience that absenteeism is a problem to be solved by the foremen and not one to be handled directly by the personnel or industrial relations department. While the personnel, industrial relations and medical departments can all offer supervision valuable counsel on the causes of absenteeism, corrective measures will be effective only when the foreman becomes interested and exerts his influence on the individual. Absenteeism is definitely a production problem, and the foreman is the man who can solve it.

At present many factors that did not exist in peacetime affect attendance. Some of these are:

Many employees are experiencing shift work for the first time.

A large number of women workers have home responsibilities.

Pay checks are large, but employees have little time off to spend the money.

Many employees live in day-to-day expectation of being drafted.

Plenty of other jobs are readily available.

Transportation difficulties and housing shortages exist in many areas.

I am thinking primarily of absence without leave, which is often due to one of the factors mentioned.

## INEFFECTIVE METHODS

Penalty systems, rewards for attendance and publicity schemes are not an adequate answer. Penalties in the form of layoff, for instance, are ineffective because the employee frequently welcomes a holiday; moreover, a layoff leads him to believe that his services are not vital to the operation of the plant. Extra pay for perfect attendance has a stimulating effect at first, but the employee soon begins to regard it as a part of his regular earnings and becomes disgruntled when it must be withheld. Publicity helps, of course, but it can never do the whole job.

The new problems the worker is facing are of a personal nature and must be met on an individual basis by foremen who use real leadership and salesmanship in their approach. People will strive to be regular in their attendance only when their interest in the job is maintained at a high level. Evidence that the foreman wants to help them with their personal problems will do much to arouse that interest.

## THE MURRAY PROGRAM

At one of our plants an effective program for combating absenteeism is now in operation, and it owes much of its effectiveness to the fact that it is largely administered by foremen. The first step was to set up a uniform system for reporting absences and then to have each foreman talk to each of his subordinates, emphasizing the importance of the employee's job, his responsibility to himself, his family and his country. Whether or not the worker had previously been absent, an attempt was made to impress upon him the serious effect absences could have.

Then the program proper was initiated. Briefly, it includes the following steps:

1. The foreman personally interviews each absentee upon his return to work, being careful to show a personal interest in the individual and a sincere desire to help him overcome any difficulty which is making absence necessary. As a guide for this interview, the foreman is provided with a list of possible questions.
2. Each foreman keeps a file of the attendance records of the people under him. These records show the complete history of all cases of absence.
3. A weekly department chart is kept, showing by shift the percentage of attendance.
4. Once each month the shift supervisor and the foremen hold a conference on absenteeism. Specific problems are brought up, and efforts made to develop corrective measures to meet them.
5. The individual who becomes a chronic absentee is interviewed off the

job by the foreman and the supervisor. Every effort is made to discover the source of his difficulties and to devise means of assisting him. If this fails and the employee is absent again, he is put on probation. Only after the most exhaustive efforts have been made to help him is he subject to dismissal.

This plan is actually getting results as is evidenced by the fact that a 50 per cent reduction in absence without leave has been recorded in the three months' period since its inception.

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# MORALE AND ITS RELATIONSHIP TO ABSENTEEISM

By FRANCES M. SMITH
Personnel Manager
Murray Manufacturing Corporation
Brooklyn, N. Y.

MORALE as it affects absenteeism in industrial plants cannot be isolated from the psychological attitudes of the people as a whole. Until the general population realizes the urgency of the war problem—I do not think it does as yet—industry will be hard put to it to educate one segment, the workers, to the necessity of pitching in up to the hilt. War workers are civilians too, and their work attitudes reflect their total personality attitudes. What we are attempting to do, actually, is to change the lifetime habits of a peaceful people. And individuals break away from set patterns with reluctance.

Reducing the problem to its simplest terms, it can be argued that workers, like everyone else, are motivated by self-interest, be it economic self-interest or some other kind. In the past it has been to a worker's economic interest to report to work regularly; otherwise he could not expect a living wage at the end of the week. Now, in most war plants, employees can report only four days out of the six and still earn a more than adequate wage. Thus, with higher wages and fewer opportunities to spend, their economic desires are satisfied before the end of the workweek. (This, of course, brings up the larger question of wage and manpower controls, but I cannot discuss it here.)

It is undoubtedly true that the further removed an individual is from a critical situation, the less apt he is to take action in terms of that situation. We can hardly expect war workers, then, to adjust their work habits to what appears to them almost an abstract idea—3,000 miles away at that. After the bombings in 1940, it was clear to the British worker that it was very much to his self-interest to work every minute of every day; and he did. But a representative of a British firm tells me that psychologically the British worker is at present further away from the war than he was in '40 and patterns his work habits accordingly.

## REASONS FOR ABSENCE

The reasons which Murray workers give for their absences are probably typical. Excluding illness and industrial accidents, the main causes seem to be as follows:

*Fatigue:* This may be, and often is, due to the job itself; or it may be the result of a too active social life. Among women workers, we have found, fatigue is often caused by an attempt to run two jobs at once—one at the plant and another in the home.

*Family Obligations:* These play a particularly important role in the case of women workers. Some women must stay home occasionally to care for their children because other arrangements for supervision have broken down. Others frankly admit that they have taken a day off to clean house or shop; many of them run into difficulty because work hours and shopping hours are identical—industry might try to educate shopkeepers to the necessity of staying open at unusual times. Then, again, young workers are often absent because a parent or dependent is ill. A good many girls stay away to get married, since boys going into the armed services apparently pop the question at the 11th hour. Finally, of course, the old chestnut, "grandmother's funeral," is still being overworked; and, I must confess, it leaves me baffled.

*Boredom* or *Need for Diversion:* A whole group of excuses falls into this category. A worker puts in just so many hours on a production job before he feels he has to go shopping, visiting or to the movies. There can be no general rule for handling cases of this sort—except, of course, when an individual has a chronic need for diversion.

## TECHNIQUES IN USE

Management will be quick to agree that there is no foolproof method of eliminating absenteeism, inasmuch as the problem is made up of many complex factors. At Murray Corporation, we are always hoping that the *employee* *suggestion system* will bring forth an idea for the solution, but as yet we have received nothing specific enough. We have had hopes, too, that *plant defense committees* would stimulate morale by dramatizing the urgency of the situation; but although this seems to have helped in individual cases, we have not seen any over-all effects. *Slogans* are posted conspicuously in the shops and changed frequently, and we have also held *plant celebrations* designed primarily to increase interest in the products and give workers a realization of the needs of the armed forces. But I can only say that following one such rally in May, management received a petition for a three-day weekend over Decoration Day. This made us realize that someone along the line had missed the boat.

Our method of dealing with individual absentees is as follows: When a worker absents himself without telephoning us, he receives a visit from a representative of the medical department, who attempts to determine the cause of the absence and to evaluate the excuse. If the report submitted warrants it, the worker may be called to the personnel office for an interview, and action may be taken after consultation with the absentee's foreman. It has been our experience that because of the rapid expansion and turnover during the last few months, few foremen know their workers so well as formerly. This may account for the fact that workers feel less obligation to the foreman and the shop. When foremen make it a point to become personally acquainted with each new worker, we have noticed, absenteeism is less of a problem.

In interviewing the worker who has been absent, we use one or more of three techniques—uplift, threat and reward—depending on the character of the individual and the circumstances. For instance, we try to show the worker exactly how his services help the country's war effort; we may even try to present the picture in terms of the effect of the absence on a member of the worker's family in the armed services. We try, too, to explain what the absence has meant to the department—that is, to show how other workers had to speed up or how production was slowed down. Foremen follow this up, although by now in a halfhearted fashion. One foreman said, "Why waste five minutes giving Susie a pep talk which won't accomplish anything anyway, when she could use the five minutes getting out more shells?"

The term "threat technique" is self-explanatory. At the moment it is not too effective in our area, for workers can still go out and get another job in 24 hours. But as the government tightens up control of the labor market, management may find the workers more amenable to reason.

We do not give bonuses for good attendance, but the attendance record is a factor in employee evaluations and recommendations for upgrading and/or promotion. At present the reward element is in terms of job prestige, and I believe we should emphasize that factor more and more in attempting to build employee morale.

If the reason for the absences appears to be job dissatisfaction, attempts at adjustment may be made—possibly the worker will be transferred to another department or another shift. One girl working on the night shift was, according to the foreman, "folding up with fatigue," and the absentee reports supported his opinion. The girl was interviewed several times, but insisted that she *had* to stay on the night shift. After much discussion, it developed that she wanted her days free to go to baseball games, but she was finally persuaded that the war came before the Dodgers. Another woman had been unable to find anyone to care for her children during the day and, as we could not locate a convenient nursery school for them, we transferred her to the night shift. Parenthetically, I might add that although the War Manpower Commission has directed the Defense Health and Welfare Services to develop programs for the day care of children of working mothers, our area has not so far benefited appreciably.

If a worker is absenting himself because he is worn out and the personnel department can find no specific reason for his fatigue, we put the case temporarily in the hands of the medical department. In some instances women workers who are upgraded find the new job too tiring, which means that we must call in the engineer to make an adjustment. Building a platform to enable women workers to load shells on double-spindle drill presses more easily turned out to be the answer to one group of fatigue cases; installation of conveyer belts to take the heavy lifting out of jobs has proved effective in others; and air-conditioning and fluorescent lighting have sometimes helped. In many cases the personnel department has suggested the changes.

Sometimes there is no valid excuse, as in the case of one woman who decided to stay home several days "to rest her finger." After the individual has committed several offenses of that sort, we resort to a temporary layoff. The procedure is not very effective, however, because the worker usually doesn't care if he earns a bit less. Moreover, the foreman is penalized in terms of production. Not often, but sometimes we lay a worker off permanently, but we are naturally going to be more and more reluctant to do so—as the labor market tightens.

### WHAT CAN BE DONE

Conclusions from my own experience, then, indicate that if management is to make its fullest contribution to the war effort, the campaign to reduce absenteeism must be relentless. We must be on guard against the assumption that absenteeism is *always* wholly the worker's fault. The fatigue element and its concomitants—boredom, need for diversion—are ever-present. Management must continually review conditions of work, pressure of production and hours of work on specific jobs to be sure that they are not causing absenteeism. The personnel department must be familiar with the resources of the community—the location of day nurseries, for instance—in order that it may help married women make the adjustments that are necessary when they take jobs.

Since penalties ordinarily imposed for absenteeism seem ineffective, probably what is needed is not severer penalties, but procedures with nuisance-value to the worker. For instance:

1. Removing time cards from the rack and having absentees report to the personnel department before returning to work. This is irksome and time-consuming for them; moreover, it imposes a strain on the ingenuity of the worker who has to explain to a tough interviewer more than once.
2. Having workers report to the payroll department for an O. K. on attendance before checks are released.
3. Insisting on a written excuse from the family doctor if the employee claims to have been ill.

More than anything else, however, management must *never* let up. It must keep hammering on the urgency of meeting production figures, in both casual conversation and formal interviews. Education must not stop with the completion of training programs for new workers. Unions must be stimulated to a realization of the importance of the problem and encouraged to feature it as part of *their* educational programs. And last but not least, management must make government aware that absenteeism is not exclusively a management problem but one which must be solved by the government—although not necessarily through stricter control. The people as a whole must be inspired to pitch in and take action under their own steam. As I see it, we must either buck up or give up—and we are not giving up!

# COMBATING ABSENTEEISM—A CASE STORY

By C. S. PHILLIPS
Personnel Director
Revere Copper and Brass, Inc.
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ABOUT three or four months ago our firm, like a good many others, discovered that absenteeism was becoming a major problem and that we had no statistics which would enable us to develop a program. Moreover, we have seven plants scattered through the East in communities with populations ranging from 50,000 to three or four million, which meant that the problem varied from plant to plant.

The first step, therefore, was to develop forms which could be used in all seven plants. To enable the personnel departments to keep a check on all absences, we devised a form to be filled out by the foreman immediately after the beginning of the shift. This shows the names of the absentees, and the reasons, if the foreman knows them, for failure to appear. A copy is sent to the personnel department which checks its records to find out whether any of the absentees have been reported ill by the medical department and whether any of them called there for treatment the day before. A check is made with the Workmen's Compensation Department also to ascertain whether or not any have been injured.

## PROCEDURES USED

From that point on, we follow one of five or six procedures in an attempt to get the employee back to work. For instance:

One plant telephones the absentee to ask why he is absent and to urge him to return to work. If he has no telephone, a telegram is sent; and he receives a personal visit if he is away for more than a day or so.

At another plant we send a representative of the personnel department to make a personal check on each unaccounted-for absence. This is much more effective than any other system, but it is time-consuming and expensive.

An entirely different procedure is followed at two other plants: The clock cards of all absent employees, except those disabled by mill injuries, are removed from the racks and notices to report to the personnel manager left in their places. This gives the personnel department an opportunity to check on the reasons for the absences and to impress upon each individual how necessary it is to maintain production, perhaps by showing him the actual figures on production losses in his department. Sometimes the entire Labor-Management Committee sits in on the interview, which helps to impress the individual with the seriousness of the matter and at the same time to educate the committee to the importance of uninterrupted production. I might add that these committees have taken the matter very seriously and have proved their willingness to cooperate.

Finally, as an additional means of driving home the need for uninterrupted production, we place charts at the mill entrances showing the number and percentage of absences by departments for each week and month. This has been quite effective, and we think it might be advisable to add a breakdown by reasons—accidents, sickness, unexcused, etc.

Then we have a form on which is recorded every absence during the calendar year, and the reason for it. Where the record shows excessive absenteeism, the personnel manager calls the individual to his office to discuss the matter in detail. In practically every instance, our personnel men report, results of these interviews have been highly satisfactory. At times employees have been transferred to another type of work, to another shift, or accorded some legal or monetary assistance. The minority which refuses to cooperate we discharge, for even in these times of labor shortage, it is preferable to operate with a reduced personnel until replacements can be trained than to keep undependable employees on the payroll. Too much leniency, we have discovered, often has an unfortunate effect—when John Doe gets away with something, other employees begin to ask, "Why shouldn't I?"

From a study of the programs under way in our plants, it becomes evident that immediate follow-up is the most effective means of reducing absenteeism. Telegrams and personal visits, together with departmental absentee charts, produce the best results. Using these methods, one of our plants has reduced absenteeism 78 per cent, or from 237 to 53 a week; another has reduced it 35 per cent, or from 4,423 to 2,878 a month.

Investigation, incidentally, has disclosed some interesting cases. There was, for instance, the man who was supposedly staying home to care for an ill wife, while actually he was working at another plant. Another employee stated that he was remaining at home because of a cold; and as the first aid reports disclosed that he had been treated for that ailment the day before, no check was made until the third day. But when the plant representative called at the home, the absentee's wife declared that he had left for work as usual, carrying his dinner pail, and we discovered that he had been going fishing. That man has not missed a day since; I do not think he will ever be absent again without a legitimate reason.

### ABSENCE DUE TO ILLNESS

Up to this point I have devoted the greater part of my discussion to ways and means of eliminating unexcused absences. Now let us consider briefly the steps which have been taken to prevent other types of absenteeism.

1. Employees are given a thorough physical examination once a year. If

any condition which might be a source of future illness is discovered, the individual is told about it and referred to his family physician. Every month, or more often if necessary, the company physician checks to make sure that the employee is receiving proper care.

2. We are expanding our medical program to insure that minor illnesses reported to our first aid department (company rules compel all employees who are taken ill on the premises to report there) to receive greater attention. True, this places an additional burden on our doctors, none of whom are employed on a full-time basis, but we have found that it helps to reduce absenteeism.
3. We have been making every effort to encourage employees to take proper recreation, although recreation facilities on our premises are limited and our programs must make use of public or private facilities. While the extended workweek and, in some instances, daily overtime have made it necessary to curtail some of our competitive sports, bowling has become increasingly popular and we now have teams competing mornings and afternoons as well as evenings.
4. Recently we have been trying to interest employees and their families in proper diet. We have barely scratched the surface as yet but belive that we can and should do more.
5. Most important of all, we combat absenteeism through articles dealing with the problem from a company and national standpoint in our employee magazine. As the magazine is mailed to the employees' homes, it can be a means of interesting the wives, sisters, daughters and sons in Revere and in the vital importance of maintaining an uninterrupted flow of material to our armed services.

# EFFECT OF JOB FREEZING ON ABSENTEEISM

By CHARLES A. WOOD
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ABOUT one month ago we got our first taste of wage freezing. Two weeks ago *job* freezing for all war industry appeared a matter of days only—and then something happened. Legislation and executive orders had been drafted; but the CIO and the AF of L marched in and said, "No—not yet—let's investigate." And we are now investigating to find out, not whether we shall have job freezing but when the most propitious moment for it will arrive.

Germany, of course, has had job freezing since the early days of the war, and has resorted to the expedient of denying absentees their rights under the national health and unemployment plans, and canceling their ration cards.

## SITUATION IN ENGLAND

England has had job freezing since April, 1941, when the general provisions of the Essential Work Order were promulgated. That order provides that any person employed in what we should call an "essential industry" may not leave his employment without the permission, in writing, of the National Service Officer, and that before the employment of any person may be terminated by either side at least one week's notice must be given. While the week's notice can be given before permission of the National Service Officer is obtained, the notice does not take effect without such permission.

This Essential Work Order did succeed in cutting down labor turnover, but it did not prevent it entirely. There is evidence that in many cases the worker, particularly the newly hired worker, turned to his doctor and obtained a medical certificate to the effect that his present occupation was "detrimental," or that he was "unfit to continue in his present job."

Moreover, although the Essential Work Order did help to keep the majority of war workers from slipping away to other jobs, it left the absenteeism problem just where it had been, despite the fact that the original order included a provision that the guarantee of a minimum wage would not apply to periods of absence. The increase in casual absenteeism in England after April, 1941, was doubtless due to the fact that a number of additional workers sought relief by taking time off. There also were cases where persistent absentees were reported to the National Service Officer, but no further action was taken; and managements felt that the new system was no better than the old. Recently the courts have stepped in to help. There is one delightful report, for example, of a civil defense worker brought into court for failure to report for duty who produced a doctor's certificate stating that he had been kept at home by "post-alcoholic dyspepsia." He was fined £10 for illegal absence.

### THE COPPER AND LUMBER CASE

Here in the United States, in two industries, we have already embarked upon a quasi-freezing experiment. Owing to the difficulty of recruiting replacements for production and maintenance workers in the copper and lumber industries, the National Management-Labor Policy Committee of the War Manpower Commission some time ago approved issuance of instructions by the Army, the Navy, the Maritime Commission and the Procurement Division of the Treasury to their own establishments, *and* to their contractors, to refuse employment to persons leaving the two industries if they had not first obtained certificates of separation from the U. S. Employment Service. Such certificates are now issued *only* when the requested separation is in the best interest of the war effort or necessary to avoid individual hardship.* No data to show what effect this pseudo freezing has had on absenteeism are yet available. Probably it has had *no* effect.

### THE PROBLEM TODAY

Whether we freeze the employee to his job or not, we shall still have several factors contributing to absenteeism: employment of women unused to factory life and of married women who find it difficult to combine factory work and home duties; transportation difficulties; inadequate eating facilities in or near the plant; and inadequate supervision of new employees. A British report last fall, subsequent to job freezing, recommended that avoidable causes be dealt with effectively and promptly, in order that inexcusable absenteeism might be remedied by appropriate action.

If we could cut our absences in half, the saving would be substantial. For example: We have had in the past an average of eight absences per employee per year. In 1943, because of the influx of new workers unused to factory employment, particularly women, it is estimated that we shall have an average of 10 absences. During 1943, it is expected also that war industry will build up to about 25,000,000 workers. If estimated absences could be cut in half, or to five days (let us say 40 hours), the result (40 x 25,000,000) would be 1,000,000,000 man-hours saved. What this would mean to our fighting men in terms of more adequate equipment and smaller loss of life, I shall leave to persons more qualified to comment than I. The time has come, however, to look upon the solution of the problem of absenteeism as a *major source of additional labor.*

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* The worker may be considered to have grounds for separation:
1. If he is competent to perform more highly skilled work.
2. If he is employed for substantial periods at less than full time.
3. If distances between home and work are unreasonably great.
4. If compelling personal reasons for a change exist.
5. If he is employed at wages or under working conditions substantially below those prevailing in the community for his kind of work.

### THE CURE

Be that as it may, the solution of the problem certainly does not lie in job freezing. The cure for absenteeism must remain a matter of analyzing the cause and applying a sound remedy. That remedy does not lie in discharge and layoff, of course, for when workers are frozen to their jobs, they frequently invite both. It does lie, in part at least, in educating the employee to self-discipline through discussions in plant newspapers and magazines, and in special bulletins, and through talks with offending individuals in which the idea that good attendance is a national obligation is stressed. In part, the remedy lies also in strict enforcement of safety regulations, in avoidance of hours long enough to bring the worker to the point of hazardous fatigue, in facilitating the shopping needs of employees on each shift, in applying preventives against the common cold (inoculation, elimination of draft, and segregation), in making salt tablets to eliminate heat-exhaustion available. For persistent absentees there remains the remedy of disciplinary action—perhaps, eventually, imprisonment.

**Serial No. R. 1507**

[From the MONTHLY LABOR REVIEW (January 1943) of the Bureau of Labor Statistics, United States Department of Labor]

# PROBLEM OF ABSENTEEISM IN RELATION TO WAR PRODUCTION

By DUANE EVANS, *Bureau of Labor Statistics*

ABSENTEEISM, the failure of a worker to appear at the job he is scheduled to do, is a matter of growing concern to those entrusted with the responsibility for war production. During peacetime, a certain amount of absenteeism was expected and accepted by employers, and it was kept within bounds by minor controls. Production schedules were usually flexible, and enough trained workers were ordinarily on hand to insure that no serious interruption in work resulted.

As the demands of war production bring us nearer and nearer to the exhaustion of labor reserves, the problem can no longer be viewed complacently. Thus far, war production generally has not been limited by absenteeism. In many cases, shortages of raw materials and semifabricated items, and of the facilities needed to produce them both, are more important than absenteeism in restricting production, and workers are still available in sufficient numbers in most areas so that "cushions" of a few extra workers can be arranged to guard against production delays. However, what may be said in general does not apply in particular cases. There are today a number of places where the amount of output that can be achieved depends heavily on the amount of trained labor which can be applied to the job, and in many cases these same points form critical constrictions in the entire war production program. It is difficult to overemphasize the seriousness of a report that in a recent month 8½ percent of the available labor time in a large copper mine was lost forever through absenteeism. Moreover, as production schedules become more closely integrated, it is clearly evident that unnecessary absences of workers from their jobs will become a critical limiting factor throughout the war production effort.

For practical reasons, absenteeism is usually defined as the absence of a worker during a full shift that he is scheduled to work. Employers frequently are able to tabulate the number of workers scheduled to appear on a given shift, the number which actually reported, and, by difference, the number absent. It is much more difficult to tabulate part-day absences, and there is, for example, no obvious line of demarcation between part-day absenteeism and tardiness.

There is no statistical information available to indicate the general extent of absenteeism in the war industries. Scattered reports from a number of factories reflect rates ranging from between 2 and 3 percent up to 15 percent and more. Reports from all shipyards in the United States, tabulated by the Bureau of Labor Statistics, show that in the month of November the absenteeism rate in that industry averaged 8.7 percent. It is expected that reports indicating the extent of absenteeism in other war industries will be available in the near future.

### *General Characteristics of Absenteeism*

Sufficient information is available, however, to indicate certain general characteristics of absences in industry. It is established, for example, that absenteeism rates are generally higher for women than for men, even on jobs of the same general character. Consequently, it is to be expected that, as more women are drawn into the labor force, absenteeism rates may tend to increase.

Greater sickness rates among women are probably a factor in their higher absence rates. The United States Public Health Service reports that in 1940 the frequency of sicknesses and nonindustrial injuries lasting 8 or more consecutive days was 153 per thousand for women as compared with 96 per thousand for men. The home responsibilities of many women in the labor force are without question an important factor. Many women industrially employed also carry the major part of the burden of running the home, and their actual working hours are thus not indicated by the time card in the factory. This extra strain probably leads to greater frequency of absences. It may also be observed that sickness among family members or children often means that the wife rather than the husband (where both are working), remains at home to provide care.

One large war plant reports current absence rates at 4.8 percent for men and 7.4 percent for women. Another gives the percentages as 5.2 for men and 8.5 for women. These figures are typical of a number of reports. Figures from another plant are especially interesting in that they show absenteeism rates for men and women separately during day and evening shifts. Whereas the rates for men and women on the day shift were 5.2 and 6.6 percent, respectively, corresponding figures for the evening shift were 5.4 and 5.7 percent. On each shift the rates for the women were higher than for the men, but on the evening shift the difference was only fractional. Moreover, the rate for women on the evening shift was lower than for women on the day shift whereas in the case of men the reverse was true. This suggests strongly that women who accept jobs on other than a day shift are likely to have fewer home responsibilities, or at any rate are more successful in carrying them along with an industrial job.

A study undertaken by one company indicates that absenteeism tends to be higher among older workers, increasing rapidly after 40 or 50 years of age. As younger men are drawn into the armed forces and the average age of those remaining in industry increases, this factor may also contribute to an increase in general absenteeism rates.

For obvious reasons, absenteeism tends to increase as the scheduled workweek becomes longer. The more time the worker spends on the job, the less free time he has to devote to personal affairs, and the more likely he is to take time off from his job. The physiological factor must also be considered. As hours are increased to the limit, the worker is under increasing nervous and physical strain. If the limit of his endurance is approached, time off the job in which to recuperate becomes a physiological necessity.

The accompanying table illustrates the effect on absenteeism of changing hours of work in a large war plant. This plant had been operating 6 days per week in most departments and 7 days per week in some. During the fifth pay period shown in the table, the plant reduced hours so that most departments operated 5 days per week and a few 6. At almost the same time certain attendance regulations were put into force. As a result of the combined effect of these two factors, absenteeism declined steadily in the following 3 months from around 7 percent to a low of 4.2 percent. At the end of the 3-month period hours were again increased, most departments going on a 6-day week. The attendance regulations were still in force, but within 2 months absenteeism had increased to a level of over 6 percent.

*Rates of Absenteeism for Biweekly Pay Periods in a Large War Plant*

| Pay period | Percent of workers absent | | | | |
|---|---|---|---|---|---|
| | Biweekly average | Friday (pay day) | Friday (not pay day) | Monday (following pay day) | Monday (not following pay day) |
| 1st | 6.6 | 3.6 | 5.9 | 7.9 | 6.6 |
| 2d | 7.1 | 4.1 | 6.5 | 9.2 | 8.5 |
| 3d | 6.7 | 3.8 | 6.3 | 10.2 | 9.0 |
| 4th | 6.9 | 4.3 | 6.7 | 10.8 | [1] 4.6 |
| 5th | [2] 7.4 | 4.0 | 6.3 | 11.4 | 8.6 |
| 6th | [3] 6.5 | 4.1 | 6.3 | 9.1 | 7.1 |
| 7th | 6.3 | 3.3 | 7.1 | 8.4 | 8.5 |
| 8th | 6.0 | 3.3 | 6.2 | 8.8 | 7.1 |
| 9th | 5.4 | 3.0 | 5.6 | 8.1 | 6.0 |
| 10th | 4.7 | 3.1 | 4.6 | 6.9 | 5.3 |
| 11th | [4] 4.2 | 2.7 | 4.2 | 6.6 | 4.6 |
| 12th | 4.4 | 2.8 | 4.5 | 5.4 | 5.1 |
| 13th | 5.4 | [5] 4.1 | 4.9 | 6.6 | 5.9 |
| 14th | 5.8 | 3.6 | 5.6 | [6] 9.2 | 6.2 |
| 15th | 6.2 | 4.0 | 6.6 | 8.2 | 7.0 |

[1] This Monday was a scheduled holiday, so double time was paid to those working.

[2] Previous to this period, plant had been operating 6 days per week in most departments, 7 days in some. During this pay period, most departments were cut to a 5-day week, with a few operating 6 days.

[3] Previous to this period, overtime pay had been given for Saturday and Sunday work without restriction. During this period, attendance regulations were put in force stipulating that an employee could not work on Saturday or Sunday, and so collect overtime pay, unless satisfactory account was given of all absences during the previous week.

[4] During this pay period, most departments returned to a full 6-day workweek.

[5] The day following was a holiday.

[6] The preceding Saturday was a holiday.

Absences on different days of the week show a marked pattern related to week ends and pay days. In general, absences are least frequent on pay days, and quite high on the day following pay day. Moreover, there is a tendency for absences to be numerous on days adjacent to a week end or holiday, independent of the pay-day effect. Since many plants pay on Fridays, these effects frequently combine to produce the lowest rate of the week on Friday, the highest on Saturday, and a relatively high rate on Monday. The data shown in the table are unusually interesting in that they permit separation of these effects, since this particular plant paid in biweekly periods. It will be observed that the Fridays which were pay days always showed rates substantially lower than the average for the biweekly period. As a matter of fact, the rates for pay days were remarkably stable and ranged in general between 3 and 4 percent. In contrast, Fridays which were not pay days showed rates near the biweekly average. Absence rates on Mondays following pay days were substantially higher than the biweekly average and also higher than the rate on Mondays not following pay days. On the latter days, however, absences were usually higher than the general average.

A somewhat different situation was found in another large war plant. There the working schedule was arranged in such a way that one-seventh of the workers were supposed to be off every day. In such a situation it might be assumed that the week end as such would lose its significance, and only the pay-day effect would disturb an even pattern. The daily rates during a recent month were as follows:

| | |
|---|---|
| Sunday | 16.0 |
| Monday | 8.2 |
| Tuesday | 7.8 |
| Wednesday (pay day) | 6.4 |
| Thursday | 8.5 |
| Friday | 8.1 |
| Saturday | 9.0 |

Wednesday (pay day) was low for the week. The rate for Sunday, however, was about double the weekly average. This very high rate may have a religious significance, but it is probably also connected with the fact that Sunday is likely to be the day when friends and family are free from work.

There appears to be a tendency for evening and night shifts to have higher absenteeism rates than day shifts. The following rates on three shifts were observed in a large shipyard:

| | *First shift* | *Second shift* | *Third shift* |
|---|---|---|---|
| Monday | 7.5 | 8.3 | 9.8 |
| Tuesday | 6.4 | 7.1 | 7.9 |
| Wednesday | 5.6 | 6.6 | 8.1 |
| Thursday | 5.3 | 5.8 | 6.8 |
| Friday (pay day) | 4.2 | 4.9 | 6.1 |
| Saturday | 7.7 | 9.0 | 12.0 |
| Weekly average | 6.1 | 6.9 | 8.4 |

On every day, rates were successively higher on the second and third shifts. The pattern of absences, however, remained substantially the same, with Friday (pay day) lowest and Saturday highest during the week.

Efforts at control of absenteeism are effective in reducing the general level, but apparently do not alter this persistent weekly pattern. The following rates during a recent month were recorded in another large plant:

| | |
|---|---|
| Monday | 3.6 |
| Tuesday | 3.1 |
| Wednesday | 3.0 |
| Thursday | 3.1 |
| Friday (pay day) | 2.6 |
| Saturday | 4.5 |

This particular plant had an elaborate absence-control system, and had reduced its general rates to a level substantially lower than other plants of similar character in the same area.

Some plants keep separate records on absences by department. Where such data exist, there is usually considerable variation from department to department. The figures would appear to indicate that accounting departments, tool cribs, offices, and supervision show lower rates than factory work generally. There is, however, no information to indicate whether absences tend to be relatively more frequent on routine as compared with nonroutine work or on heavy versus light work.

### *Causes of Absenteeism*

In discussing the causes of absenteeism, a distinction should be made at the outset between voluntary and involuntary absences. In general, no statistical distinction is possible. In a few cases efforts have been made to determine the extent and causes of voluntary absenteeism by interviewing workers. But the validity of the results was questioned by the investigators themselves because of the difficulty of obtaining an objective statement of the reason for a voluntary absence, or for that matter, simply a statement that an absence was voluntary. However, companies with absence-control programs and careful records of time lost have not generally been able to reduce absenteeism below 2 to 3 percent. Some such level may perhaps be taken as a practical minimum, and everything over this regarded as probably preventable and so in a sense voluntary. The real characteristic distinguishing voluntary absenteeism is, of course, that it is under the control of the individual worker.

There is no question but that the major cause of involuntary absence is sickness. Accordingly, the health programs sponsored by many companies for their workers are a direct attack on this source of lost time. Some employers require periodic physical examinations of their employees and so are able to employ preventive measures to reduce absences through illness. In some cases vitamin preparations and cold vaccines have been distributed free, or at cost, to reduce respiratory illnesses. The United States Public Health Service has made specific recommendations in certain industries to reduce special health hazards. For example, it has recommended that special "change houses" be established for workers in the iron and steel industry who are exposed to high temperatures, so that they may change from perspiration-soaked clothing to dry clothing before leaving the plant.

Community health and health services may influence absenteeism, especially as more women are brought into the labor force. For example, the health of young children is as important as that of their working mother, as far as her attendance at a job is concerned. Proper facilities for the care of children during the day, while parents are at work, will assist in reducing lost time from such causes.

Working conditions generally must be satisfactory if absences are to be held to a minimum. Reasonable hours of work and periodic days of rest contribute to reduction of absences from sickness. The recent statement of policy of a committee of Federal agencies headed by the Secretary of Labor, recommending that every worker be given at least 1 day off in every 7 and work not more than 48 hours in any 1 week except where absolutely necessary, was designed not only to maintain workers' efficiency in the war period but also to reduce absences caused by sickness and nervous strain.

Accident-prevention campaigns carried on by many companies help to reduce time lost from the job. Some employers have found that accidents off the job cause more absences than industrial accidents, and have inaugurated programs to make workers safety-conscious off as well as on the job.

There is a series of causes of absenteeism that lies on the borderline between the voluntary and involuntary, in that a reduction in absences is possible through the voluntary effort of the employee, but the conditions which lead to absence are to some extent outside his control. For example, a worker who is required continuously to work long hours may take time off on his own initiative, to relax and relieve physical or nervous fatigue. Such voluntary absence may take the place of involuntary absence, later, because of sickness or nervous exhaustion. The most satisfactory remedy in such a case lies not in an appeal to the worker but rather in a reduction of working hours below the limit imposed by his endurance.

Housing shortages and transportation difficulties are in many cases related causes of absenteeism. Makeshift housing and overtaxed sanitary facilities in the vicinity of expanded war industries may lead to sickness, sometimes in epidemic proportions, and consequently to lost working time. The adequacy of housing accommodations in any area in which war factories are situated is thus a matter to be considered carefully in appraising general worker efficiency.

Crowded housing facilities in war production areas usually imply long journeys to and from the job for many workers. In several areas, according to reports, substantial numbers of workers are commuting distances up to and in excess of 60 miles. The effect of this is to add 2, 3, or more hours to the employees' workday. Both because of the added strain and because the worker has that much less time in which to attend to personal affairs, such conditions will lead to absences. Many of these workers traveling long distances depend on personally owned automobiles for transportation, and mechanical failures, poor tires, and the like are stated to be causes of absences, especially where public transportation is not available or is inadequate.

In particular cases, much has been done by employers themselves to ease transportation difficulties. Many companies have, of course, sponsored car-pooling arrangements. In many places, working shifts in the same plant and in neighboring plants have been staggered to ease peak demands on overloaded public transportation systems. Some firms have purchased and operate busses for workers where other transportation is inadequate. A more ambitious step in this direction has been taken by a shipbuilding company at Houston, Tex. It is renovating 42 railroad cars purchased from the defunct New York, Westchester, & Boston Railroad. These cars will be used to carry workers the 15 miles from Houston to the isolated shipyards.

Some war plants in areas where housing facilities are inadequate have reported that week-end absences are frequent among men, who use this opportunity for visiting their families which cannot be housed in the neighborhood. Men are also reported to be absent frequently in efforts to find living quarters for their families.

Inadequacies in community facilities contribute to lost time in still other ways. As more women are brought into the labor force, there are more families in which all adult members are expected to work 6 days per week. Where this is the case, it is important that shopping facilities be available for workers in the hours when they are off duty. In some cities the local merchants' associations have arranged to see that the stores stay open at least one night each week for the convenience of workers on day shifts. A different approach to this problem has been reported in England, where non-working women have assumed the responsibility of shopping for neighbors who have accepted war jobs.

It is reported that in some areas workers have had difficulty in obtaining the professional services of doctors, dentists, and lawyers, except during working hours. The cooperation of local professional societies has been obtained in some cases to make such services available to war workers during their regular time off duty.

Some sources of absenteeism not easily classified have been reported by employers. Many of the workers now in industry have not had previous industrial experience and so have never formed regular attendance habits. In some cases new workers have accepted a job with the intention of trying it out and without the necessity of depending on it for a livelihood. Attendance of such workers has in some cases been spasmodic. A certain amount of absenteeism may be mistakenly reported by employers where workers quit their jobs without notice; such workers may be carried as absent on the company records for periods ranging from 3 days to as long as 2 weeks.

An important factor in purely voluntary absenteeism is the morale of the worker. If he regards his work as simply another job, he is more likely to take time off for purely personal reasons than if he feels that his work represents a real contribution to national security. For this reason, programs informing workers of the uses to which their products have been put by our armed forces probably assist in reducing time lost through absences. A feeling of personal participation is also conducive to better morale. It is probable that the employee-suggestion programs, scrap drives, war bond and stamp campaigns and other activities in which employees can join, either directly or through their unions or labor-management committees, contribute a psychological lift to morale that should be added to the more tangible benefits realized.

Employers who have been asked the reason for voluntary absences have most frequently given as a major reason the high wages paid in many war plants. At an earlier date, in industries where 7-day operation was the rule, payment of overtime for Saturday and Sunday work as such was criticized widely. It was believed that this practice encouraged workers to take time off in the early part of the week and use Saturday and Sunday work to bolster their earnings with overtime pay. The President's directive ending this practice was issued with the object of reducing the absenteeism which the practice might enourage and at the same time of discouraging excessive hours of work for any individual worker by permitting time and a half for the sixth consecutive day of work and double time for the seventh.

The statement that high wages as such are a major contributing cause to absenteeism requires some qualification. If followed to its logical end, this idea would lead to the conclusion that the best way to keep workers on the job would be to make the rate of pay so low that any absence would necessarily be followed by financial hardship. In a similar vein, higher taxes and the war-bond campaign might be considered as contributing to absence control.

It is true that many of the workers now employed in war industries previously earned substantially less than at present. Despite increased living costs, there are certainly many workers who can take time off and still maintain a standard of living higher than they had previously enjoyed. Simply put, with adequate earnings there is a point beyond which a worker places a higher value on the use of his time for his own purposes than on additional earnings, provided no other factors are to be considered.

## *Control of Voluntary Absenteeism*

Since the designation of high wages as a cause of voluntary absenteeism would seem to lead to no practical method of reducing absences, other considerations must be examined. That the problem is not insoluble has been demonstrated by companies which have cut absenteeism to reasonable proportions through absence-control programs. The successful programs seem to have two necessary and coordinate stages. First, the worker must be informed that there is definite disapproval of voluntary absenteeism. This is not limited to disapproval by the employer; the disapproval of his country and his fellow workers are also effective deterrents. Second, the worker must be made aware that his absence does not pass unnoticed. In many war plants today the worker is not required to account in any way for absences. It is no negligible contribution to absence control if the worker knows not only that his pay envelope will be lighter and his conscience heavier, but also that he must account to another person if he takes time away from his job for some purely selfish reason.

The extent to which the Federal Government can assist in absence control is limited. Workers are informed of the unpatriotic aspects of voluntary absences from war jobs by speakers in war plants, posters, radio programs, and through the labor-management committees formed under the war production drive. The absentee is told through these media that his absences directly help the enemy, and that when he is away from his job he personally fails to meet a responsibility to the men in the armed services. Absences among men subject to the draft may be discouraged by the policy of not giving occupational deferment to habitual absentees. In Great Britain the attitude of the Government is emphasized by fines and jail sentences meted out to those habitually absent from their work.

Individual companies have responded to the absence-control problem more directly and in almost infinite variety. An elaborate system used by one company requires any worker absent less than 3 days to fill in and sign a slip describing the reason for his absence on returning to work. These slips are kept in an alphabetical file, and if the worker accumulates more than a certain number he is interviewed by a member of an absence-control unit. If the reasons advanced are legitimate, an effort is made to help the worker remove the cause of the absences; otherwise, the worker is warned. A habitual absentee is placed on probation; repeated absences bring dismissal. Workers absent 3 days or more are required to report to the absence-control unit before returning to work. Occasional checks on employees reported as sick are made by visiting nurses employed by the company. The plan has been effective, since the absence rates reported were lower in this plant than in any similar plant in the same area.

A less detailed plan, which nevertheless keeps voluntary absences at relatively low levels, is reported by another company. Shortly after the beginning of each shift, all time cards which have not been punched in are taken from the racks. These are distributed to the foremen of the various departments. In order to report for work, therefore, an employee who has been absent or tardy has to go to his foreman to obtain his time card.

Some establishments keep records of absences by departments, crafts, or shifts, and post the current rates regularly on bulletin boards. A number of plants award banners to groups with good records. The intent of such programs is, of course, to enlist the aid of the absentee's fellow workers to keep him on the job. Some plants award special bonuses or prizes periodically, but specify that workers must have perfect attendance records during the period to qualify for such awards.

Various methods are used to single out the absentee. Some establishments post the names of all absentees on bulletin boards. Others put red or yellow stickers on the time cards of absentees, require that absentees get their pay at special tables ("Hitler's Pay Table"), or put facsimile German marks in the absentee's pay envelopes together with a pretended note of thanks from the German Government. All such extreme methods should probably be used only with considerable care, since they are likely to arouse no little resentment in a worker who feels justified in being absent. Careless resort to them may make the absence-control question seem one simply of employer-employee relations, and in the present emergency it has far broader implications.

Disapproval by fellow workers is a strong influence for control of time lost through absences, and there are many ways in which it may be effectively focused. In a number of plants, the labor members of the labor-management committees have accepted the responsibility of interviewing absentees. In some cases, unions have discussed absenteeism at meetings and have sponsored programs to control it. One union is reported to have suspended the privileges of members dismissed from a war plant for habitual absenteeism and to have placed them on the inactive list. In one plant, a shop committee composed of men with sons or brothers in the services interviews absentees.

Absenteeism differs somewhat from many other manpower problems. The participation of the Federal Government is probably needed for the satisfactory resolution of such questions as labor supply, migration, labor turn-over, wage stabilization, Selective Service policy, recruitment of women, training of new workers, housing for war workers, and the like. The most effective contribution to the reduction of absenteeism, on the other hand, can be made by the cooperative effort of management and workers in each war plant.

U. S. GOVERNMENT PRINTING OFFICE: 1943

WMC:RO:II:IS

OFFICE FOR EMERGENCY MANAGEMENT
WAR MANPOWER COMMISSION
11 West 42 Street
New York, New York

OFFICE OF THE
REGIONAL DIRECTOR

WOMEN'S BUREAU
JAN 18 1943
DEPARTMENT OF LABOR

January 16, 1943

Miss Mary Anderson
Director
Women's Bureau
U. S. Department of Labor
Washington, D. C.

Dear Miss Anderson:

As requested in your recent letter I am enclosing a copy of our report on absenteeism.

Sincerely,

Anna M. Rosenberg

Anna M. Rosenberg
Regional Director

Enclosure

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

Mettert

# PRELIMINARY SURVEY ON ABSENTEEISM IN WAR PLANTS

## Explanatory Note

The material contained in the foregoing pages is divided into three parts:

A. Pages 1 to 4 inclusive, summary of absenteeism in six plants.

B. Pages 5 to 10 inclusive, details on information gained in each plant.

C. Pages 11 to 18, special report on absenteeism in "X" plant.

This material on absenteeism has been gathered in order to give the regional office of the War Manpower Commission some working material on the subject. Although I am satisfied that the conclusions reached on the major causes of absenteeism are sound, I wish to emphasize that these studies are to be regarded as constituting only a preliminary survey of the problem. They are not presented as, nor are they intended to be a definitive study of all phases of absenteeism. They are working papers only and are being used as such by the War Manpower Commission.

Anna M. Rosenberg
Regional Director
Region II
War Manpower Commission

(CAUTION: This material has been prepared solely for administrative purposes of the War Manpower Commission and its content is not to be used in any manner without prior clearance with the Commission.)

# INTERIM REPORT ON ABSENTEEISM
## BUFFALO - NEW YORK

12/1 - 12/5/42

This report covers information gathered in the following plants:

Colonial Radio Corporation - War Production - Radio Equipment
National Biscuit Company - Essential Production - Food Products
Niagara-Hudson Power Company - Essential Facility - Electric Power
Otis Manufacturing Company - War Production - Foundry Castings
Trico Manufacturing Company - War Production - Airplane Accessories
Worthington Pump Company - War Production - Air Compressors

### Form

The form for getting the desired information in the studies follows:

1. Report of Absenteeism
   - (a) Comparative rates of absenteeism on different days of the week
   - (b) Average length of absenteeism
   - (c) Departments having the greatest amount of absenteeism and least amount of absenteeism
   - (d) Overall rate of absenteeism for plant
   - (e) Comparative rates of absenteeism among men and women
   - (f) General occupational groups in which absenteeism most frequently occurs
2. Causes
   Percentage for each cause, if possible, broken down by male and female
3. Methods used by plants to combat absenteeism
4. Absenteeism records used by plants

### Summary of Findings

It is important to bear in mind in reviewing this summary that these findings are by no means final and conclusive proof of the facts concerning the absentee problem, but are rather preliminary indications of the factors which affect this problem. It is fair to assume, however, that since the material herein contained agrees with previous studies made in this country and in Great Britain, that the trends shown are indicative of the various elements that affect absenteeism.

The summary of findings are general because the records in the different plants were scarce and for the most part employers have become cognizant of this problem only in the last month or two. The findings include:

7. **Methods of Combating Absenteeism** (cont'd.)

(b) Interview with personnel officials and foremen
(c) Form letters and letters with patriotic appeal
(d) A.W.O.L. on time card
(e) Follow-up by telephone or telegram

Here, too, as in the morale program, there was a certain helplessness on the part of management on techniques in coping with the problem.

8. **Relative Absenteeism Among Occupational Groups**

It was estimated by management that the bulk of absentees are among the new, unskilled workers.

9. **Relative Absenteeism Among Men and Women**

Absenteeism on the part of women is definitely higher than men..

10. In most cases, only a small percentage of the workers in a plant form the basis of the absentee problem. It was estimated in one plant that 17% of the employees caused the bulk of the absenteeism, and in another plant 13%.

11. The day after pay day is definitely the worst day for absenteeism and in some cases absenteeism on that day is double that of other days.

12. It was estimated by management that in only about 50% of the cases do the workers call in when they stay out.

## Preliminary Recommendations

These recommendations are based on:

(1) Review of available material on absenteeism in the United States and Great Britain;

(2) Study of 6 plants in the Buffalo area and analysis of absenteeism at the Curtiss-Wright Corporation;

(3) Discussions with plant officials, employment service officials, etc.

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The summary of findings are general because the records in the different plants were scarce and for the most part employers have become cognizant of this problem only in the last month or two. The findings include:

1. **Rate of Absenteeism**

Approximately 4.5 per cent - ranging from 1.5 per cent in a public utility plant to 10 per cent in another war plant. It is the opinion of the technicians and generally conceded by employers that this rate is conservative.

2. **Causes of Absenteeism**

a. illness
b. personal reasons (e.g., taking care of member of family, marriage, business, weddings, funerals, etc.)
c. shopping for other jobs
d. miscellaneous (e.g. domestic problems, cashing checks, overtime pay, rationing, etc.)

The causes given were very general because the records available for the most part do not show the causes.

All of the above causes were conceded to be tied up very definitely with the morale of the workers.

3. **Labor Management Committees**

These committees play an important part in the dealings with the problem and form the basis for any real attempt to combat absenteeism.

4. **Records**

None of the plants studied had any efficient record keeping system on causes of absenteeism. The officials all showed a marked desire for help along this line.

5. **Health Program**

None of the plants studied had an organized health program, either preventative or treatment.

6. **Morale**

In most cases, some morale work was being carried on, but mostly the management and/or labor management committees were groping for ideas.

7. **Methods of Combating Absenteeism**

(a) Labor Management Committee

(1) Poster campaign
(2) Competition, prizes
(3) Personal contact by union officials

7. **Methods of Combating Absenteeism** (cont'd.)

(b) Interview with personnel officials and foremen
(c) Form letters and letters with patriotic appeal
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These recommendations are based on:

(1) Review of available material on absenteeism in the United States and Great Britain;

(2) Study of 6 plants in the Buffalo area and analysis of absenteeism at the Curtiss-Wright Corporation;

(3) Discussions with plant officials, employment service officials, etc.

Recommendations Include

(1) Community campaign to make war employers and war workers aware of the seriousness of the problem and especially its effect on war production. This might include:

(a) newspaper articles;

(b) meetings with employer groups through the Chamber of Commerce, personnel groups, etc., and meetings with trade unions;

(c) posters in conspicuous places provided by the War Manpower Commission, stating the need for regular attendance, e.g., bars, post offices, etc.

(2) Review with employer groups the after pay-day absenteeism to work out some solution, e.g., insertions in pay envelopes.

(3) Compilation by the War Manpower Commission of material on efficient systems of absenteeism record-keeping, so that it can be widely distributed for use by employers.

(4) Compilation by the War Manpower Commission of sample morale programs with suggestions for posters, letters, etc., for wide distribution to employers.

(5) The War Manpower Commission to urge the War Production Board to send a special letter to the management labor committees in the plants to concern themselves with this problem.

(6) The War Manpower Commission to continue to accumulate information on frequency, causes of absenteeism, records, and methods of combating absenteeism and make known to employers that consultation with specialists in the War Manpower Commission is available.

(7) The War Manpower Commission work out with health authorities sample health programs for distribution to plants.

(8) Status of absenteeism to be included as an important part of any plant analysis in the future.

## Details on Information Gained in the Plants Visited by the Technicians

### COLONIAL MANUFACTURING COMPANY

Manufactures: radio parts
Total staff: 2,248
Male 848
Female 1400

1. **Ratio of Absenteeism**.--Monday, greatest amount of absenteeism, declines daily to Friday, which is pay day.

✓ 2. **Average Absenteeism** about 75 per day - approximately 3.08%, of which 80% is among women. ①

3. **Average length of absence** - 2 days.

**Causes**

Illness - 75%
Personal - 25%

**Method of Combating**

(1) **Procedure**

Employee must call in to personnel office when he is absent. If he does not call in a special delivery letter or telegram is sent. Absence is noted on employee's record. Doctor's certificate must be provided for more than two days absence.

(2) Labor Management Committee is concerning themselves with problem of

- (a) posters
- (b) bulletin boards
- (c) competition between departments

(3) Personnel representative makes personal contacts with "repeater" absentees.

**Records**

No records other than marking personnel card of individual employees. It is stated that they expect to start immediately with a revised record system of absenteeism.

## TRICO PRODUCTS COMPANY

Manufactures: Aircraft and truck windshield wipers and war products
Total employees: 1,985
Male 940
Female 1045

1. Ratio of Absenteeism.--Absenteeism greatest on Monday and declines daily to Friday, which is pay day.

2. Overall Absentee Ratio

Male 4%
Female 5½% (this figure has gone up 2% recently)

These figures are based on a survey recently made.

3. Departments that have expanded recently and hired new workers, such as the Inspection Department, have the highest absentee records. Departments with old employees have little or no absenteeism.

Causes

Illness - 80%
Personal (marriage, women with domestic problems, etc.) - 2%

Method of Combating

(1) Procedure

Absentee calls into personnel office before 9:30 a.m. Personnel office notifies department foreman. A list of absentees by departments is sent by the personnel office. When worker returns, foreman discusses absence if reason given over phone was unsatisfactory.

(2) Member of labor-management committee in each department unofficially discusses absence with repeaters.

(3) Labor-Management Committee

(a) Posters in each Department

One poster was particularly good. It showed a picture of a soldier with blood streaming from his head. Above the picture itself, "the day you missed work" and below the picture "Americans dying on the battlefront." On the right of the poster and at the top the following inscription "reported missing in action on production front." Under this inscription a list of names of the absentees in each Department.

(b) a slip marked A.W.O.L. is attached to the clock card of repeaters.

Interim Report on Absenteeism

**Records**

(a) Daily report by departments to personnel office

(b) Records within departments showing employee, whether male or female, and days of week absent.

NIAGARA-HUDSON POWER COMPANY

Electric public utility
Total Employees: 3,621
Male 3,171
Female 450

Rate of absenteeism - Greatest on Monday declining daily to Friday, which is pay day.

Over-all Absentee Rate - 4.1 working days per employee - 1940
4.34 working days per employee - 1941
4.5 working days per employee anticipated in 1942

This makes an average rate of about 1.5% absenteeism.

Multiple Absences

2 times-521 employees
3 times-232 "
4 times-108 "
5 times- 66 "
6 times- 51 "

The "line" department where workers are on the outside a great deal of the time has the highest rate of absenteeism.

Causes

illness
accident
personal reasons

Three Methods Used to Combat Absenteeism

No posters are used. During 1940 the company sold to employees at half cost "Vacagen" cold vaccine tablets which were used by about 1200 employees with good results. The same program was offered in 1941 and was taken advantage of by only 400 employees. This was attributed to grapevine information circulated by those who took the treatment that it did not show good results. This year this company is offering free to employees in their steam generating plant, where temperatures are exceedingly hot or cold, "vituels" a vitamin capsule. The company maintains a completely equipped clinic with a full-time nurse in charge. If a person is out one day, the nurse calls to check the situation.

The low absentee rate is mostly attributed to the fact that most of the employees have been with the company a long time, and therefore, feel more responsibility in their jobs.

Records

Usually a disability report made out by the department head and turned into the personnel office daily. The information on these reports is transferred to employee records and the data is compiled periodically on tabulation machines.

## WORTHINGTON PUMP COMPANY

Manufactures: Air compressors and diesel engines

Total employees: 2,015
Male 1,815
Female 200

Rate of Absenteeism - Monday highest rate of absenteeism, declines daily to Friday which is pay day.

Overall Absenteeism Rate - 5%

Average Time Lost - 2 days

Greatest absenteeism among the unskilled workers

Causes

Illness - no other information available

Method of Combating

(1) Labor management committee is now engaged in making a study of absenteeism.

(2) Posters and bulletin boards

(3) A letter with patriotic appeal is being composed to be sent to absentees.

Records

Absentee list made out daily by departments and sent to the personnel office. Clock cards are pulled from the rack if worker is absent for more than two days without cause.

## NATIONAL BISCUIT COMPANY

Manufactures: biscuits
Total employees: 500 - over 50% female

This is a plant which is not directly in war production, although it is considered essential because it is a food-processing plant. Absenteeism is attributed mainly to employees looking for jobs in war plants which are more directly concerned with war and pay higher wages. The beginning wage is $.35 per hour. The records show that employees are absent either one day, or six, seven, or eight days. It is obvious from these records, that the employees who are marked six-seven, or eight days have probably found war jobs. The rate of absenteeism is greatest among unskilled employees.

There is no follow up on absentees and no program to combat this problem. The only records kept are maintained by department foremen daily.

The problem in this plant is largely turnover, rather than higher per cent of absenteeism.

## OTIS ELEVATOR COMPANY

Manufactures: foundry castings
Total employees: 720
Male - 585
Female - 135

Rate of Absenteeism - Greatest on Monday, declining till Friday, which is pay day. Two days is average absence. Foundry has largest percentage of absenteeism; the office has the smallest percentage of absenteeism.

Average Rate for Plant - approximately 4%

Causes - Illness
Personal reasons
Accident cases

Methods of Combating

(1) Posters
(2) Letters from company officials
(3) Sending for absentees by manager
(4) Personal contacts (talks with the repeaters)
(5) Notifying draft boards

Interim Report on Absenteeism

## Records

A daily report is kept by foremen listing all employees who are absent. This is in turn turned in to the employment office the following morning.

The company stated that they are about to start to set up a more efficient recording system of absentee record-keeping.

The report of absenteeism in the Curtiss-Wright Corporation has been previously submitted. The over-all ratio was between 6 and 7%.

## ADDITIONAL REPORT ON ABSENTEEISM IN "X" PLANT

12/5/42

This report is to be read in conjunction with the Interim Report on Absenteeism in Buffalo dated December 1 and December 5, 1942, and the report on absenteeism contained in the preliminary study made in October 1942, of the "X" plant.

### THE PURPOSE OF THIS REPORT

This report deals primarily with the proposed solution to the problem of absenteeism adopted by the "X" Corporation, and contains additional suggestions and observations for strengthening the proposed solution.

### BACKGROUND

On December 2, 1942, representatives of the War Manpower Commission met at the "X" plant with the Assistant to the Vice-President and the Chief of the Personnel Department, and discussed with them the seriousness of the absenteeism problem at the "X" plant in Buffalo. The Assistant to the Vice-President conceded that the absentee rate of approximately 6.5% was exceedingly high, but took the position that the solution of the high absentee rate was primarily a management problem. After considerable discussion, he stated that he would welcome whatever cooperation could be given to him by the War Manpower Commission in solving the problem.

Discussion commenced between the War Manpower Commission representatives and management on the specific points revealed by the preliminary study of the plant. The following situation with respect to the severity of the absenteeism on given days was pointed out to the management:

| | | |
|---|---|---|
| Saturday | - absent - | 1,127 |
| Monday | - absent - | 1,074 |
| Tuesday | - absent - | 1,016 |
| Wednesday | - absent - | 874 |
| Thursday | - absent - | 821 |
| Friday (pay-day) | - absent - | 731 |

During the week under discussion, October 23, 1942, there were 14,438 employees on the payroll.

We felt that the first problem was the abnormally high percentage of absentees on Saturday, Monday and Tuesday, the days immediately following payday. The management stated that this situation had been called to their attention, and that they hoped to remedy it by making Saturday the sixth day of the week, and consequently the day on which time and one-half would be paid. They hoped that by making Saturday the time and one-half day, the high absentee rate would be considerably cut down. The Saturday time and one-half day would be instituted the week commencing December 7, 1942.

We proceeded to a discussion of those departments which had the highest percentage of absentees, and pointed out that in the Tool Room, for example, there was an average absentee rate during the week of October 16, 1942, of 35%-40%. Management at first questioned this rate, but after checking its own records, conceded its accuracy and explained it by saying that the men in the Tool Room had been working sixty to seventy hours a week, due to excessive demands made upon them, and that the result had been that once the rush was over, men were just taking time off. They intended, however, to pay particular attention to the Tool Room Department, in order to cut down the number of absentees there.

At this point, management informed us that they were formulating a comprehensive plan to deal with the problem of improving morale throughout the company, and to reduce absenteeism, speed up production, and salvage materials. This plan will be discussed further below. The importance of this report lies primarily in an analysis of this plan, but before proceeding to the plan itself, a word should be said about the labor union situation and the causes of absenteeism.

## THE LABOR UNION SITUATION

The International Association of Machinists has recently won an election held under the supervision of the National Labor Relations Board. Prior to this election there had been a company union operating in the plant. This company union was dissolved by order of the National Labor Relations Board. The C.I.O. had had a rather large representation in the plant, but in a secret election the workers had chosen the A.F. of L. Collective bargaining negotiations have been proceeding between the company and the union, and a contract has been agreed upon, with several items left for ultimate decision by the National War Labor Board.

Agreement has been reached by the company and the union on the desirability of a labor-management committee. In discussion with management, they emphasized the importance which they attached to the labor-management committee as an indispensible aid toward the improvement of morale and the solution of the absenteeism problem. The company spoke cordially of its relations with the labor unions, and indicated absolutely no hostility in their approach, but rather a desire to welcome constructive joint action.

## CAUSES OF ABSENTEEISM

1. Illness The most frequently assigned cause of absenteeism is illness. No accurate records were kept by the company showing the exact number of absences attributable to illness. It is the concensus of opinion that illness is the assigned reason for at least 50% of the absences.

A survey made of the causes of absenteeism at the Consolidated Aircraft Corporation plant at Fort Worth, Texas, reveals that personal illness accounted for 41.1% of the reasons assigned for absences, and that illness in the family was assigned as the cause for absence 7.7% of the time. These figures were shown to "X" management, and they stated that their experience would support these percentages.

"X" maintains large hospital and clinic facilities, as well as a nursing service. The nursing service is under the supervision of the Metropolitan Life Insurance Company. The representative in charge stated that an attempt had been made to check up on the legitimacy of illness as an excuse for absences, and that in more than 1,000 visits by the nursing service to the homes of absentees who were supposed to be out due to illness, they found that only about 30% of those who gave illness as an excuse were actually absent because of illness. No records are available to support these figures.

2. Rationing problems The plant of "X" in another city had learned that many employees were absenting themselves because of the necessity of appearing before tire rationing boards, gas and fuel rationing boards, etc. There, arrangements were made with the local O.P.A. authorities to instal a branch rationing office in the plant. The results were found to be beneficial.

Recently a branch rationing board of the O.P.A. has been installed at "X" plant in Buffalo, and trained personnel is available to fill out the necessary forms and to advise on ration problems.

3. Shopping The "X" plant at Buffalo operates around the clock twenty-four hours a day. Thursday night is the only night on which the large stores in Buffalo remain open until 10 P.M. The reports are that the stores which remain open on Thursday night are jammed. During the Christmas season other stores commenced the practice of remaining open several nights a week until 9 P.M. Management felt that if arrangements could be made to have some large stores remain open on a staggered schedule throughout the year, it would be a further means of reducing absences.

4. Check-cashing difficulties Management stated that a large number of its checks were presently being cashed in the various taverns and saloons which were open until quite early in the morning. Some saloons close at 1 A.M. and others at 3 A.M. Management felt that a great many employees go to saloons in order to cash their checks and remain to buy drinks. Management firmly believes that no effort should be made to close

the saloons earlier, because they say that the temptation to buy more liquor to drink at home and other places would be a greater evil than the drinking at saloons, but management does feel that if the banks in Buffalo would remain open several nights a week to cash checks, the number of stomach-aches associated with check-cashing in saloons would decrease substantially.

5. Overwork Attention has been previously called to the abnormally high rate of absenteeism in the Tool Room Department, of 35%-40% during the week of October 16, 1942. Management's explanation for this was that the men had been working on a 60 to 70 hour week in this department, and that men who had been putting in such hours would take time off just as soon as there was a lull. They regarded this situation as unhealthy, but excessively long hours are unquestionably a major cause of absenteeism. This has been borne out by a survey reported in "Medical Care", Vol. 2, #2, dated April, 1942, on "Workers' Health In War Production."

The following is a direct quotation from the survey:

> "Fatigue, Sickness, Absenteeism
>
> Fatigue due to long hours increases sickness and absenteeism.
>
> In careful British studies during the last war, Dr. H. M. Vernon found that at three shell factories men working 63½ hours a week lost 7 per cent of their time from sickness. The percentage diminished as the working hours decreased, so that when the working week was 54 hours, the lost time was only 4 per cent.
>
> In an American munitions plant, where the working day was increased from 9 to 12 hours, the rate of absenteeism increased from less than 6 per cent before the hours were lengthened, to 9.3 per cent during the first year after the increase, and to 12.2 per cent during the second year; thus showing a cumulative effect of the longer hours (3)."

6. Ignorance of the problem One of the principal causes of absenteeism is the fact that neither management, trade-unionists nor workers are sufficiently aware of the problem. The average worker, when he takes a day off, feels that the only one who is adversely affected is himself, in that he loses a day's pay.

There have not been sufficient statistics made available to trade unionists or to management on what a normal absentee rate is.

Nor has enough of an educational job been done in awakening management, trade unionists and workers to the problem.

## THE COMPANY'S PROPOSED METHOD OF IMPROVING MORALE AND REDUCING ABSENTEEISM.

The company had employed a local advertising firm to develop a campaign for improving morale. War Manpower Commission's representatives met with representatives of the advertising firm and the plan was gone into in detail. It has four aspects, and is projected on an all-year basis. The four aspects are as follows:

1. Increased production.
2. Salvage.
3. Absenteeism.
4. Suggestions.

The center and keynote of the plan for carrying through the program by each of these four items is the establishment of a labor-management committee. Six weeks are devoted to dealing with absenteeism. The details of the plan follow, though not necessarily in the order in which the plan is blocked out.

The theme set for this campaign is: "Back up our battle-skies." It is planned to begin the campaign some time during the first week of January 1943 by building up a "teaser" campaign around the words "B.U.O.B." The company plans to post billboards on all roads leading to the factory with these letters on them; the letters are also to be painted on the grounds of the parking lots and on automobile streamers and bumpers.

The next step is a mass meeting in one of the public auditoriums at which government officials and stage and radio celebrities will speak, and where the meaning of the mystic words will be given.

The absenteeism part of the "Back Up Our Battle-skies" campaign has several features. One is the presentation of war bonds and eighteen other prizes, on the following basis: (1) Each department in the plant will be broken down to units of one hundred, and there will be drawings for the prizes. In order to be eligible for the prizes, it is necessary for a worker to have a perfect attendance record. (2) Workers with a perfect attendance record will not only be eligible to compete for the prizes, but will be given pins, with bars indicating the length of their perfect attendance record. (3) Those having extraordinary attendance records will be given a certificate signed by the President of "X". (4) Departments having extraordinary records will likewise receive certificates.

Another feature of the plan, and one of the most important, is a poster campaign designed to make workers realize that their failure to show up for work affects adversely not only the workers' own pockets, but the entire war effort as well. These posters are cleverly designed to show the seriousness of unnecessary absenteeism.

Another feature contemplates the publication of pertinent war news and production news in the company newspaper. Up to the present time it has been the policy of the company to carry nothing but trivial social news in its house organ. The company will now publish another newspaper devoted to stimulating the war effort. Six issues of this newspaper will be devoted to discouraging absenteeism.

In addition to these morale-building steps, the company is instituting a change in its method of handling absences. At the present time, if an employee is absent, a pink slip is inserted with his time card, and the employee is supposed to turn in on the pink slip the cause for his absence. Approximately 50 per cent of the employees turn in the pink slip, and the others disregard it. Hereafter, the time card of the absent employee will be taken out of the rack, and the returning employee will have to go either to his foreman or to a personnel counsellor in order to obtain his time card, and will be required to fill in, in writing, the cause of his absence. The company feels that this step will have a deterring effect on absences.

## SUGGESTIONS MADE BY W.M.C. REPRESENTATIVES TO THE COMPANY IN AID OF THE COMPANY'S PLAN TO CURB ABSENTEEISM

There is no doubt but that the company has recognized the seriousness of the absentee problem. All of the steps taken by the company should unquestionably reduce the absentee rate, but the following suggestions were made to the company:

1. Even though the company has stated that it intends to build its entire morale-improvement plan around the labor-management committee, it does not seem to quite grasp the actual importance of this committee. For example, a manual is presently being prepared by the advertising agency, in which the above enumerated plan is set forth in detail. On the cover of the dummy manual was printed the following words: "Prepared by the Industrial and Public Relations Council of "X". It was suggested that this be changed to read that the plan was prepared and worked out by the labor-management committee of plant "X".

2. In explaining the plan to W.M.C. representatives, they were shown a streamer, which had been exhibited to management, reading as follows: "75 per cent of the success of this plan depends upon management." It was pointed out to the company that at least 90 per cent of the success of the plan actually depends upon the cooperation which it receives from the workers and from the trade union which is the collective bargaining agent of the workers, and that instead of assuming that 75 per cent of the

success of this plan depends upon the efforts of management, that the emphasis should be placed upon convincing the trade union representatives and the labor-management committee that all of the success of this plan depends upon their understanding and cooperation.

3. The elaborate poster campaign which has been prepared is excellent, but it is designed to reach the same type of audience that can be reached through the Saturday Evening Post, namely; the banker, the broker, the baker, the railroad worker, the housewife, etc. The copy on the posters and the illustrations do not personalize the war for the "X" worker. For example, there is a tremendous concentration of Polish workers in the plant, probably the largest concentration of Polish workers in the entire United States. No effort is made to appeal to the patriotism of the Polish workers. There is no attempt to tie up increase production with the freedom of the Polish land and the Polish people from Hitler's oppression. Most of the Polish workers either come from Poland or are first generation Americans. Their ties with their families in Poland are very strong.

It seems that this is a particularly fruitful ground for making the Polish workers in the factory realize that every time they are away from work, they hurt their own people in Poland. Posters might also point out to them that they are able to work for Polish freedom as well as world freedom, under comparatively ideal conditions.

4. It was also pointed out that the posters do not personalize the war for all the employees. Practically every employee in the plant has either a brother, husband, cousin, friend, etc., in the armed services. The posters do not tie up the worker with the friend or relative in the armed forces. This is a serious shortcoming. When this was pointed out to the management, an artist and copy-reader were called in and instructed to try and develop lines of greater personalization.

## ADDITIONAL PROPOSED SOLUTIONS NOT NECESSARILY CONNECTED WITH "X"

### 1. Communities.

The first problem is to make the community conscious of the absentee situation. A concentrated effort should be made via press and radio, and through governmental agencies, to make unnecessary absenteeism unpopular in the workers' community. This does not mean that persons who have legitimate causes for being absent should be urged to go to work and that they should not remain at home. It does mean, however, that a determined effort should be made to make unnecessary absenteeism unfashionable and unpopular.

For example, in the first days of gas rationing, many people boasted about having "X" cards. As a result of the tremendous pressure in the newspapers, that type of chiseling very soon became unpopular. Hoarding has been made unpopular by public education. If the community is made aware of the problem, unnecessary absenteeism can become just as unpopular as gas chiseling, draft dodging, and hoarding.

2. Proper use of the available trade union bodies.

An effort should be made to acquaint immediately every central trades and labor council, and every C.I.O. industrial union body, with the absentee problem. Most trade unions have no idea of what constitutes a normal absentee rate. They do not know that the problem exists. This is not their fault, because there has been so great a lack of available authentic data.

It is suggested that a W.M.C. representative, who knows what he is talking about, present this problem to the central labor bodies immediately. The presentation of this problem is bound to have a two-fold effect: (1) The W.M.C. representative will unquestionably learn specific ways of combatting absenteeism; (2) The labor union groups will and can cooperate. The ultimate solution lies very largely with them.

3. Proper use of trade union newspapers.

Many trade unions, if not all of the large trade unions, publish either weekly or monthly newspapers. They will unquestionably accept any article written specifically for their audience dealing with the absenteeism problem and with the morale problem generally. "Canned" articles explaining the nature of the problem, and giving suggested solutions, should be distributed immediately to all trade unions publishing newspapers. It is suggested that these articles be given not only to those trade unions that are engaged in direct war industries, but to all trade union newspapers, because, for example, the families of food workers may be working in direct defense plants. The problem should be made a family and community one, as well as a plant problem or war industry problem.

4. Labor-management committees.

It is suggested that in each area, an area-wide plant labor-management committee meeting be held, lasting at least two days. The purpose of these state-wide labor-management committee meetings would be, first, to have W.M.C. representatives acquaint the committees with the problem, and secondly, to give them a specific program. Many of the labor-management committees have degenerated into mere suggestion boxes, or are merely lip service committees.

If a coordinated program of activizing these committees is adopted, the effect on morals could be excellent. Absenteeism could be brought to the fore at these conferences. This suggestion of an area-wide conference has been sounded out with various labor-management committees, and has been received most enthusiastically by them.

Catton--5244

RV-M.
(only to MVR)

OFFICE OF WAR INFORMATION

WAR PRODUCTION BOARD

For immediate release
Monday, January 25, 1943

WPB-2404

Emphasizing the value which cooperative efforts by labor and management can have in solving the problem of absenteeism in manpower shortage areas, Chairman Donald M. Nelson of the War Production Board today made public a telegram sent by him to the Labor-Management Committee of the Symington Gould Corporation at Depew, New York.

The telegram was sent after an Army-Navy Day rally had been arranged at the Depew factory by the Army Industrial Services Division as a part of a program being worked out by the Labor-Management Committee there to cope with the problem of absenteeism. The telegram reads:

"Labor Management Committee,
Symington Gould Corporation,
Depew, New York

"PLEASE EXTEND MY GREETINGS TO ALL WHO ARE TAKING PART IN THIS ARMY-NAVY DAY DEMONSTRATION AND EXPRESS MY BEST WISHES FOR A SUCCESSFUL RALLY. I WOULD LIKE TO BRING TO YOUR ATTENTION THE SERIOUSNESS OF THE PROBLEM WHICH IS INVOLVED IN ABSENTEEISM IN WAR FACTORIES. IF THIS COMMITTEE CAN UNITE MANAGEMENT AND LABOR IN A CONCERTED EFFORT TO SOLVE THIS PROBLEM, A GENUINE CONTRIBUTION WILL BE MADE TOWARD REMOVING ONE OF THE PRINCIPAL OBSTACLES TO THE KIND OF PRODUCTION EFFORT WHICH IS NEEDED TO SUPPORT OUR BOYS ON THE FIRING LINE.

"DONALD M. NELSON
"CHAIRMAN, WAR PRODUCTION BOARD"

/

January 27, 1943

**MEMORANDUM**

To: The Secretary

From: Mary Anderson

Subject: Need for Investigation of Absenteeism Among Women in War Plants

The managements of key war factories are reporting unscheduled short-term absenteeism as a major difficulty in maintaining full production. Separations from employment also create further difficulties.

The Women's Bureau occupational experts now located in nine Manpower Regions are overwhelmed with demands for assistance in advising plants on occupational adjustments necessary to women's physical capacities. Such adjustments often are important in reducing absenteeism and separations from employment.

The following data suggest that in many cases excesses of absenteeism and turnover may be due to failure to make plant adjustments necessary to secure the most effective operation with women workers. Many of the new millions of women now needed in war-contract plants are not experienced in factory procedure. The plants often have had little or no experience to enable them to judge what jobs women can perform and what conditions are necessary to enable a woman labor force to work most effectively.

> Terminations of employment recently reported to the Women's Bureau indicate a higher rate among women recently employed than among men.
>
> Private physicians have reported a heavy increase in woman worker patients unable to sleep or eat.
>
> The frequency rate of long term absenteeism is high among married women, who are carrying the double jobs of factory production and home maintenance.
>
> The U. S. Public Health Service has past records showing a higher absenteeism rate among women than among men, chiefly of short-term absences.

Such personnel matters directly connected with supply of woman labor call for immediate study of the actual reasons for absenteeism, separations, etc., in specific plants and through personal visits to women workers in their homes. Knowledge thus obtained will make it possible (1) To determine the extent to which these conditions that are delaying war production can be prevented, (2) To work out a program with other Government and private agencies in the community,

(3) To develop effective measures to control absenteeism and separations, (4) To establish a reserve of women for part-time work, and (5) To follow through the suggested measures and assure their effective use.

This will require additions to the Women's Bureau field staff of new members to work directly with the Bureau experts in each region. With problems already acute in congested war-contract areas, three groups of workers would be required, (1) New England and the Middle Atlantic States; (2) the Middle West and the South; and (3) the Pacific Coast and the Rocky Mountain Regions. The cost of this program on an annual basis would be approximately $95,000.

Budget Requirements:

| | | |
|---|---|---|
| Field Staff: | | |
| In charge of studies | 3 @ $3,200 | $9,600 |
| Interviewers | 18 @ 2,600 | 46,800 |
| Clerical-Stenographers | 4 @ 1,800 | 7,200 |
| (One person Chief Clerk's Office) | | |
| | | $63,600 |
| Travel when away from official field station<br>21 workers x $175 x 8 months. | | 29,400 |
| Communication and Miscellaneous Overhead<br>$5 per month per person (5 x 12 x 25) | | 1,500 |
| | | $94,500 |

Women's Bureau
U. S. Department of Labor
Washington

February 23, 1943

Outline of Project to Eliminate Causes of Preventable Absences Among Women War Workers.

I. Method:

A. Women's Bureau regional representatives will select war plants having excessive absenteeism rate for women in their regions.

B. Field agent will transcribe from firm records information concerning individual woman absenteeism during two weeks preceding home visit.

C. Field agent will make follow-up visits to women in their homes to discuss conditions resulting in absenteeism.

D. Reported causes of absenteeism will be analyzed and checked against conditions in plant or community.

E. Recommendations will be made to:

1. Employers where correction of plant conditions is advisable or where new personnel policies should be instituted.
2. Community agencies where they can ease the load of family obligations or community facility difficulties.

F. Follow-up will be carried on by regional representatives to see that preventable absenteeism is overcome.

II. Data to be secured:

A. From plant records:

1. Name of women    2. Address
3. Dept. where employed    4. Shift Worked    5. Days Worked
6. Rate of pay    7. Date of hire    8. Length of employment
9. Days of absence    10. Length of absence
Week ---- M T W Th F S S
Week ----
11. Reason given
12. Medical Department report.

B. From home visit interviews

1. Personal data:    Age:    Race:
Recent work experience
Married    Husband working    His job:
Dependent children: Number
Other dependents and relationship
Length of time living in this community

2. Woman's initial statement as to cause of absence.

3. Discussion of:

   a. Difficulties on the job
      - Physical difficulties
        - Illness, self
        - Accident
        - Does work tire you so much you need rest?
          - Why?
        - Would you consider another type of job physically easier for you?
      - Lacks in job satisfaction
        - Job boring, unimportant, etc.
      - Job irritations
        - Trouble with other workers, supervisor, pushed too hard, etc.?
        - Wage scale
      - Seeking other job?

   b. Difficult external circumstances
      - Transportation difficulties
      - Inadequate housing

   c. Difficult home conditions
      - Illness of family members
      - Need for child care
      - Need for care of adult family members
      - Housework to catch up on:
      - Shopping needs
      - Professional or business service needs.

   d. Other personal demands
      - Soldier husband visited or visiting
      - Social functions

4. Workers suggestions for bettering job conditions, easing home load, or need for community facilities.

Women's Bureau
U. S. Department of Labor
Washington

Miss Nienburg's
file

January 25, 1943

Memorandum:
To: Miss Mary Anderson
From: Bertha M. Nienburg
Re: Need for special field staff.

The addition of 2-1 2 million women to the labor force in 1942, and the expected addition of 3 million more in 1943 mainly from the ranks of homemakers without recent work experience have brought new problems to war industries that require solution if production is to go forward as planned.

> Unscheduled short-term absenteeism is a present major cause of difficulty reported by employers. The U. S. Public Health Service has past records showing a higher absenteeism rate among women than among men, with absences of 1, 2 or 3 days duration accounting for 66 percent of women's absences.
>
> The frequency rate of long term absenteeism is high among married women.
>
> Terminations of employment recently reported to the Women's Bureau indicate a higher rate among women recently employed than among men.
>
> Private physicians have reported a heavy increase in women worker patients unable to sleep or eat.

These and other personnel matters call for immediate study of the actual reasons for absenteeisms, termination of employment, etc., from specific plants through personal visits to workers in their homes. From such findings, preventable measures whether concerned with working conditions, family obligations or community conditions, would be instituted with employers, workers or community agencies. The extent of preventable absences would be determined and plans developed for a reserve of women to be employed on a part-time or share shift basis. Follow-ups would need to be made to learn the practical adequacy of suggested measures.

The Women's Bureau now has occupational technicians located in nine Manpower Regions. These workers are overwhelmed with the demands for assistance in advising plants on occupational adjustments necessary to woman's physical capacities. Another staff is necessary to make home visits to women workers and to devise remedial steps. While this staff would work directly with Bureau technicians in each region, they would move from one community to another as conditions warranted. As problems have already become acute in congested war contract areas, three groups of workers would be required, one for New England and the Middle Atlantic States, one for the Middle West and the South, and one for the Pacific Coast and the Rocky Mountain Regions. The cost of such study on an annual basis would be approximately $95,000.

Budget Requirements:

| | | |
|---|---|---|
| **Field Staff:** | | |
| In charge of studies . . . | 3 @ $3200 - | $9,600 |
| Interviewers . . | 18 @ 2600 - | 46,800 |
| Clerical-Stenographers . . . | 4 @ 1800 - | 7,200 |
| (One person Chief Clerk's Office) | | |
| | | $63,600 |
| Travel when away from official field station<br>21 workers x $175 x 8 months. | | 29,400 |
| Communication and Miscellaneous Overhead<br>$5 per month per person (5 x 12 x 25) | | 1,500 |
| | | $94,500 |

February 22, 1943

Memorandum:
To: Miss Mary Anderson
From: Bertha M. Nienburg

Re: Bureau of Labor Statistics and Absenteeism

The Articles of B. L. S. are general, based on a few plant records.

On the Plant Report of Operations gotten for the W.P.B., they ask:

Total Man-hours lost during week due to absenteeism

1. Reported sickness and accident
2. Other reported reasons
3. Unexplained absences.

When schedule is revised in April, expect to break it down by sex.

Given to Miss Anderson by Thelma McKelvey.

Miss A. [illegible] [illegible]
Nov. 17th

November 5, 1942.

## PROPOSALS FOR STUDIES TO BE PERFORMED BY THE WOMEN'S BUREAU, U. S. DEPARTMENT OF LABOR, FOR THE WAR MANPOWER COMMISSION

(1) Part-time employment program for women unable to accept full-time employment due to home conditions, physical conditions, or other factors influencing full-time employability. Such a study would establish the industries, services and occupations within these fields where women could most readily be employed on a part-time basis. Necessary adjustments in particular establishments, government experience, the impact of part-time employment, and the number of additional workers required, on transportation facilities, increased clerical work in the establishment, are all points to be considered. Such a study should be pointed toward white collar fields, retail, services, specific departments in industrial establishments where such a program could be worked out and how.

(2) Effectiveness of a six-hour shift employment basis for women; degree of efficiency obtained under such a system; relationship to a 7-day week, which would amount to 42 hours a week worked; study of plants which have experimented with 6-hour shifts; how this could be related to other plants employing women.

(3) ✓ Current information and analyses for distribution to manpower regions affected, Navy Department and Maritime Commission of the experience in shipbuilding with reference to the use of women in order to eliminate difficulties of employing women in this industry and increase their efficiency.

(4) ✓ Material on effectiveness of women as supervisors and foremen, desirable personnel practices and policies where large numbers of women are being employed.

(5) Absenteeism -- a study of factors contributing to greater absenteeism among women employees; methods of overcoming.

Miss Nienburg

U. S. Department of Labor
Office of the Secretary
Washington

For release upon receipt

Absenteeism in war production plants can be materially reduced by the cooperation of labor and management and the assistance of industrial experts of the United States Department of Labor and State departments of labor, Secretary of Labor Frances Perkins declared speaking on the National Radio Forum with Senator Elbert D. Thomas, (Utah), Chairman of the Senate Committee on Education and Labor and Representative Mary Norton, (N. J.), Chairman of the House Labor Committee in connection with the Thirtieth Anniversary of the establishment of the United States Department of Labor.

Reports to the Labor Department show that fatigue, eye strain, poor ventilation, poor heat and sanitation and improper food facilities are all factors which increase the number of workdays lost in war industries due to illness which, combined with accidents, is responsible for 90 percent of absenteeism, she pointed out.

"We have made two surveys of the absenteeism problem, one in commercial shipyards and the other in airframe plants," she said. "These show that since April last absenteeism in commercial shipyards has averaged a little less than 7½ percent and that since last January it has averaged 6.4 percent in airframe plants. As to the volume of absenteeism, no one has adequate records, but here are some rates recently reported to me by large war contracts plants: 4.01 percent, 2.43 percent, 3.5 percent, 3 percent, 6.9 percent and 2.5 percent.

"In most of the plants with a low absenteeism rate, management gives a large part of the credit to labor cooperation and Labor Department assistance."

Secretary Perkins declared that speaking out of a quarter of a century in studying and improving industrial conditions and operations she was in agreement with other experts that much of the absenteeism can be cured and cited her Department's experience in reducing the accident rate in plants which used the technical services of U. S. Labor Department safety engineers. She gave as an example an industry which had been having 150 accidents for every 1,000,000 man-hours worked and which cut this to 10 per 1,000,000 man-hours."

Senator Thomas and Representative Norton praised the work being done by the United States Department of Labor and particularly its achievements in the last 10 years so as "to foster, promote and develop the welfare of the wage earners of the United States, to improve their working conditions and advance their opportunities for profitable employment," as ordered by the statute under which the Department was set up on March 4, 1913.

(S 43-742)

U. S. DEPARTMENT OF LABOR
Women's Bureau
Washington

MTM
for copies

# SICKNESS ABSENTEEISM
## SUMMARY OF INFORMATION AVAILABLE

from other than WB material

### Frequency of illness

According to Public Health Service Reports based on years of reporting by sick benefit associations of illnesses disabling for over 7 days, industrially employed women show an excessive number of illnesses per year as compared with industrially employed men. For the year 1941 the number of cases per 1,000 women was 163.3; for men 101.3.

For illnesses of short duration the excessive rate for women is even more marked. One company, for example found the annual rate of absences of 1 day or longer per 1,000 women, 1,561.2; per 1,000 men 894.9.

There is great variation in sick absentee rates between companies reporting to Public Health Service. In some the rate for women approaches or is slightly under the rate for men. A report on illnesses of 8 days or longer among Westinghouse Electric and Mfg. Co., Pittsburgh plant showed 101.7 cases per 1,000 women as compared to 96 cases per 1,000 men.

### Days lost per year from illness

Boston-Edison Co., reporting all lost time from illness of 1 day or longer found that women lost in 1941 an average of 9.5 days, men 8.1 days.

For illnesses under 8 days duration women at General Motors lost an average of 7 days, men 5½ days according to a report made in June 1942.

The Fisher Body Division of General Motors reported a total of 5,013 days lost by 412 female employees in 1940, while 3,219 males lost 9,751 days.

A sample study of salaried employees at Westinghouse, Pittsburgh plant, showed women losing 2.2 percent of their available time because of illnesses, men losing 1 percent of their available time.

### Length of disability

Women's illnesses tended to be shorter than men's. Reports from Boston Edison Co. show an average of 6 days lost per absence for women, 9 days for men. Women lost less time per absence from every class of disability except nonindustrial injuries.

Considered by duration of each absence, the Boston Edison Co. shows one-third of all women's absences lasted only 1 day while a little over one-fifth of men's absences were that short.

Report on salaried employees at Westinghouse showed little difference in duration of men's and women's absences. Women's absences were slightly longer - 3.9 days as compared to 3.5 days.

## Other evidence of comparative severity

A study of a community in Baltimore showed a somewhat higher proportion of disabled men receiving medical care than did disabled women.

## Types of illness

The respiratory diseases cause the greatest number of absences both for men and women. The sample study at Westinghouse showed over 85 percent of male sickness absences and over 75 percent of women's sickness absences caused by respiratory diseases.

Public Health Service reports of illnesses of 8 days or longer showed an excess frequency rate of men over women of diseases of the heart, rheumatism, both acute and chronic, and other diseases of organs of locomotion. The greatest excess of women's cases over men's is reported for respiratory diseases, digestive diseases, genito urinary diseases (other than nephritis) and neurasthenia

## ALL ABSENTEEISM

There is little factual information on absences due to causes other than illness. An unpublished report from Consolidated Aircraft's 2 plants in California for 4 months in 1942 shows higher absence rates for women but also shows that these rates are not increasing so rapidly for women as for men. In plant II in one week of the month of October, the male rate reached a higher level than the female rate.

A plant (not named) reporting to the National Industrial Conference Board lists all causes of absence in the year 1941 as follows: No breakdown is given by sex.

| | |
|---|---|
| Sickness | 7.83 |
| Transportation | .02 |
| Permission | 1.26 |
| Injured | .20 |
| No excuse | .11 |
| Sickness in family | .64 |
| Suspended | .03 |
| Vacation | 6.82 |
| Laid off | 5.13 |

Total days lost: all causes 22.04

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

# SICKNESS ABSENTEEISM

## I - Frequency of Men's and Women's Illnesses Compared

### (1) U. S. General 1941 (Public Health Service)

(From Public Health Reports, Sept. 4, 1942, p. 1345) 1/

Absences of Over 7 Days

| | Annual number of cases per 1,000 - | |
|---|---|---|
| | Males | Females |
| Sickness and nonindustrial injuries | 101.3 | 163.3 |
| Percent of female rate | 62 | - |
| Percent of male rate | - | 161 |
| Nonindustrial injuries | 12.0 | 13.9 |
| Sickness | 89.3 | 149.4 |
| Respiratory diseases | 40.8 | 63.1 |
| Nonrespiratory diseases | 45.6 | 81.8 |
| Digestive diseases | 15.4 | 26.9 |
| Nondigestive diseases | 30.2 | 54.9 |
| Diseases of the heart | 2.5 | 1.8 |
| Other circulatory diseases | 3.6 | 4.7 |
| Nephritis, acute and chronic | .4 | .5 |
| Other genitourinary diseases | 2.4 | 10.6 |
| Neuralgia, neuritis, sciatica | 2.0 | 2.5 |
| Neurasthena, and the like | 1.0 | 6.2 |
| Other diseases of the nervous system | 1.3 | 1.3 |
| Rheumatism, acute and chronic | 3.7 | 3.3 |
| Diseases of organs of locomotion except joints | 2.8 | 2.4 |
| Diseases of the skin | 2.7 | 3.9 |
| Infections and parasitic diseases | 2.5 | 4.1 |
| Cancer | .5 | .3 |
| All other diseases | 4.8 | 13.3 |
| Ill-defined and unknown causes | 2.9 | 4.5 |

1/ Illnesses of over 7 consecutive calendar days reported for 257,726 male person-years and 18,008 female person-years.

The year 1941 showed an excessive rate of illness for both men and women from appendicitis, for men an increase over previous years in bronchitis and pneumonia and for women an increase in diseases of the heart and other circulatory diseases and an increase in infections and parasitic diseases.

(2) Boston Edison Co. 1941 (Public Health Service Reports, Apr. 24, 1942, p. 627)

Absences of 1 day or longer

| | Annual number of absences per 1,000 - | |
|---|---|---|
| | Males | Females |
| All disabilities | 894.9 | 1,561.2 |
| Industrial injuries | 26.6 | 3.5 |
| Nonindustrial injuries | 34.8 | 61.2 |
| Respiratory diseases | 559.6 | 832.2 |
| Nonrespiratory diseases | 273.9 | 664.3 |

(3) New England Telephone & Telegraph Co., Sickness Disability, 1940
(Industrial Health and the War, Daniel L. Lynch, M. D.)

Cases per 1,000

| Men | | Women | |
|---|---|---|---|
| Age group | Cases | Age group | Cases |
| 20-29 | 85 | Under 25 | 225 |
| 30-39 | 125 | 25-34 | 305 |
| 40-49 | 175 | 35-44 | 315 |
| 50-59 | 205 | 45-54 | 330 |
| 60 and over | 235 | 55 and over | 320 |

(rates approximate; taken from chart)

Age seems a more important direct factor in male illness than female.

* (4) Committee on Costs of Medical Care and U.S.P.H.S.
(Cases and Days of Illness Among Males and Females with Special Reference to Confinement in Bed, by Selwyn D. Collins, P.H. Reports, Jan. 12, 1940, pp. 47-93)

720 cases per 1,000 males
833 cases per 1,000 females (exclusive of female genital and puerpal conditions)

* (5) Baltimore study in Milbank Memorial Fund Quarterly, July, 1942, pp. 221-241.
(The Severity of Illness Among Males and Females, Sally Preas and Ruth Phillips. Year ending 1940) 1/

| | Ratio per 1,000 | | Ratio of prevalence for females to that for males |
|---|---|---|---|
| | Males (3,314) | Females (3,336) | |
| Total cases | 142.7 | 231.7 | 1.62 |
| Acute illness | 44.3 | 69.8 | 1.58 |
| Chronic illness | 98.4 | 161.9 | 1.65 |
| Major | 52.5 | 92.3 | 1.76 |
| Minor | 45.9 | 69.6 | 1.52 |
| Institutional | 0.4 | 0.3 | .75 |

1/ Number of persons for whom illness was reported.

* (6) Baltimore study (see 5)
(Incidence of illness during 12 months, 1939-40. 1/

| Causes of illness | Rate per 1,000 population Male | Rate per 1,000 population Female | Ratio of rate for females to rate for males |
|---|---|---|---|
| All causes | 1105.0 | 1593.9 | 1.44 |
| Nondisabling | 623.7 | 984.8 | 1.58 |
| Disabling but not confined to bed | 234.4 | 276.2 | 1.18 |
| Confined to bed | 247.0 | 332.9 | 1.35 |
| Respiratory illness | 669.7 | 915.2 | 1.37 |
| Nondisabling | 384.8 | 569.7 | 1.48 |
| Disabling but not confined to bed | 123.1 | 135.0 | 1.10 |
| Confined to bed | 1161.8 | 210.5 | 1.30 |
| All other illness | 435.3 | 678.7 | 1.56 |
| Nondisabling | 238.8 | 415.2 | 1.74 |
| Disabling but not confined to bed | 111.3 | 141.2 | 1.27 |
| Confined to bed | 85.1 | 122.4 | 1.44 |

1/ Rate at which attacks of illness occurred. 2713 years of life for males and 2770 years of life for females.

(7) General Motors Corp. The Substandard Worker, Physical Examination and Placement, by P. J. Ochsner, M. D., Medical Director, Fisher Body Division, in Industrial Medicine, June, 1942, p. 283-4.

Female employees had 20 percent more cases of non-occupational injuries and diseases than the male employees.

(8) Westinghouse Electric and Mfg. Co., Pittsburgh, Pa., 6 months, 1942, salaried workers (unpublished).

| Number of periods of absence | 371 Males | 334 Females |
|---|---|---|
| Total | 734 | 1440 |
| Colds | 238 | 389 |
| Influenza | 165 | 360 |
| Grippe | 145 | 209 |
| Sore throat | 29 | 36 |
| Sinus infection | 35 | 22 |
| Tonsillitis | 12 | 86 |
| Laryngitis | 17 | 7 |
| Appendectomy | - | 29 |
| Accidents (non | - | 58 |
| Other | 93 | 245 |

(9) Westinghouse Electric & Mfg. Co., Pittsburgh,Pa., 1941 (unpublished)
Factory employees.

### Illnesses of 8 Days or Longer

| Cause | Number of cases per 1,000 - Males | Number of cases per 1,000 - Females |
|---|---|---|
| Sickness and nonindustrial injuries | 96.0 | 101.7 |
| Nonindustrial injuries | 12.7 | 8.3 |
| Sickness | 83.3 | 93.4 |
| Respiratory diseases | 36.5 | 35.1 |
| Digestive diseases | 16.3 | 24.6 |
| Nonrespiratory-nondigestive | 28.4 | 32.4 |
| Ill-defined and unknown causes | 2.1 | 1.3 |

## II - Days lost per year - men and women compared

(1) U. S. Public Health Service - Disability among employees of Boston Edison Co., 1941. (U.S.P.H.S. Reports, Apr. 24, 1942, p. 627)

Annual Number of Days Lost per Employee from Disabilities of 1 Day or Longer

| | Males | Females |
|---|---|---|
| All disabilities | 8.074 | 9.503 |
| Industrial injuries | .694 | .019 |
| Nonindustrial injuries | .383 | 1.138 |
| Respiratory diseases | 3.280 | 4.082 |
| Nonrespiratory diseases | 3.717 | 4.264 |

(2) General Motors Corp., Study of Apr. 1942. Sickness Absenteeism, A. T. Court in Industrial Medicine, June 1942, p. 271 ff.

Short term absenteeism has been found substantially higher among women than men. Women lost an average of 7 days per person a year from illnesses under 8 days duration, while men lost an average of 5$\frac{1}{2}$ days per person from illnesses of such brief duration.

(3) General Motors Corp., Fisher Body Division, Lansing 1940 (see p. 6)

Number of Days Lost in 1940 from Disabilities Lasting at Least 7 Days

| | 3219 Males | 412 Females |
|---|---|---|
| Total days lost | 9751 | 5013 |
| Non-occupational injuries | 1389 | 221 |
| Respiratory diseases | 2326 | 926 |
| Digestive diseases | 2475 | 807 |
| Other diseases | 3495 | 2004 |
| Pregnancy | -- | 1055 |

(4) Westinghouse Electric and Manufacturing, 6 months, 1942. (Salaried employees) (unpublished)

Number of Days Lost from Disabilities of 1 Day or Longer

| | 371 Males | | 334 Females | |
|---|---|---|---|---|
| | Number | Ratio to available time in percent | Number | Ratio to available time in percent |
| Total Days lost | 2524 | 1.00 | 5620 | 2.23 |
| Colds | 472 | .19 | 1072 | .42 |
| Influenza | 640 | .25 | 1185 | .47 |
| Grippe | 465 | .18 | 619 | .24 |
| Sore Throat | 47 | .02 | 187 | .07 |
| Sinus Infections | 76 | .03 | 367 | .04 |
| Tonsillitis | 38 | .02 | 386 | .15 |
| Laryngitis | 26 | .01 | 22 | .01 |
| Appendectomy | - | - | 590 | .24 |
| Accidents | - | - | 396 | .17 |
| Other | 760 | .30 | 795 | .32 |

## III - Length of Disability

(1) Boston Edison Co. (see p. 4)
Absences of 1 day or longer

Average Number of Days Per Absence

| | Men | Women |
|---|---|---|
| All disabilities | 9.02 | 6.09 |
| Industrial injuries | 26.06 | 5.50 |
| Nonindustrial injuries | 11.01 | 18.60 |
| Respiratory diseases | 5.86 | 4.91 |
| Nonrespiratory diseases | 13.57 | 6.42 |

(2) Boston Edison Co. 1933-1937. Duration of Disability
(Public Health Service, U. S. Public Health Service Reports.)

| Duration | Male Absences | Female Absences |
|---|---|---|
| Total | 100.0% | 100.0% |
| 1 day | 22.7 | 32.6 |
| 2 | 16.9 | 21.1 |
| 3 | 14.2 | 12.6 |
| 4 | 9.6 | 7.8 |
| 5 | 7.5 | 4.8 |
| 6 | 6.3 | 3.8 |
| 7 | 5.8 | 4.5 |
| 8-372 | 17.0 | 12.8 |

(3) Westinghouse Electric and Mfg. Co., Pittsburgh. (unpublished)
Absences of 1 day or longer

Average Days of Duration of Absence

| | 371 Males | 334 Females |
|---|---|---|
| Total | 3.5 | 3.1 |
| Colds | 2.0 | 2.8 |
| Influenza | 3.9 | 3.3 |
| Grippe | 3.2 | 3.0 |
| Sore Throat | 1.6 | 5.2 |
| Sinus infection | 2.2 | 16.7 |
| Tonsillitis | 3.2 | 4.5 |
| Laryngitis | 1.5 | 3.1 |
| Appendectomy | - | 20.3 |
| Accidents | - | 6.8 |
| Other | 8.2 | 3.3 |

## I V - Other Evidences of Severity

### *(1) Baltimore Survey (see p. 2)

There is an excess number of cases among females in both severe and minor illnesses. Table on p. 3 shows that the excess in rate for females for nondisabling illnesses was greatest - 58 percent greater than for males. However, the female rate for bed illnesses was 35 percent greater than the male rate.

### *(2) Baltimore survey (see p. 2)

The percentage of illnesses receiving medical care among females was somewhat lower than that among males for each class of disability for all illnesses, with the exception of nondisabling, respiratory illnesses where the percentages were the same for both sexes.

Percent of Illnesses Receiving Medical Care by Sex

| | Male | Female |
|---|---|---|
| All causes | 38.5 | 32.0 |
| Nondisabling | 22.3 | 18.7 |
| Disabling - not confined to bed | 48.1 | 39.7 |
| Confined to bed | 70.3 | 65.0 |

## V - Type of Illness (see also P.H.S. reports, p. 1, and others under frequency, days' lost, and so forth.)

### (1) New England Telephone and Telegraph Co. (see p. 2)

Frequency of medical diagnosis in illness of more than 7 days' duration. 1936-40.

| | Distribution by types of disability 1/ | | Distribution by time lost by type 2/ | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| Upper respiratory | 37.4 | 45.1 | 16.6 | 27.4 |
| Gastro-intestinal | 9.1 | 4.2 | 9.1 | 4.5 |
| Off duty accidents | 7.9 | 10.9 | 7.1 | 10.9 |
| Arthritis | 7.0 | 3.4 | 8.7 | 6.1 |
| Skin | 4.0 | 4.5 | 2.8 | 3.4 |
| Appendicitis | 3.3 | 3.9 | 3.3 | 5.0 |
| Veins and arteries | 2.4 | - | 3.7 | - |
| Pneumonia | 2.3 | - | 2.6 | - |
| Mental and nervous | 2.3 | 3.7 | 5.2 | 7.9 |
| Heart | 2.2 | - | 5.6 | - |
| Liver and gall bladder | 2.1 | 1.4 | - | - |
| Hernia | 1.9 | - | 2.6 | - |
| Cancer | 1.3 | - | 4.1 | - |
| Hypertension | 1.4 | - | 3.0 | - |
| Miscellaneous | 15.4 | 17.0 | 25.6 | 28.5 |
| Genito-urinary | - | 4.4 | - | 6.3 |
| Anemia | - | 1.5 | - | - |

1/Based on 4334 cases of illness of men, 11,615 cases of illness of women.

2/Based on 173,380 days lost because of illness of men, 300,092 days lost because of illness of women.

VI - Day on Which Absence Started and Day of Return to Work

(1) New England Telephone and Telegraph Co. & Consolidated Edison (see p. 2) 1936-40

1. Illnesses began on Monday in a very large proportion of cases throughout the 5 years.
2. Nearly 70 percent of men returned to work on Monday; nearly 60 percent of women returned on Monday.

## ALL ABSENTEEISM

(1) Consolidated Aircraft Corp. Absenteeism of Hourly Employees, July 1942 to October 16, 1942. (unpublished)

Percent Absent Daily

| | Plant I | | Plant II | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| July | 4.1 - 4.5 | 5.9 - 7.0 | 4.3 - 5.2 | 6.2 - 8.2 |
| August | 4.4 - 5.0 | 7.2 - 8.0 | 4.6 - 5.6 | 7.7 - 9.3 |
| September | 4.0 - 5.5 | 5.7 - 8.4 | 4.6 - 7.6 | 6.6 - 11.7 |
| October | 6.5 - 6.7 | 7.2 - 7.9 | 8.5 - 9.7 | 8.8 - 8.9 |

(2) Curtiss-Wright, St. Louis, Missouri (Christian Sci. Mon., August 4, 1942)

Absences of women are no greater than among men, less than 3 percent.

(3) One company not reporting sex of employees (N.I.C.B., Report No. 46, Reducing Absenteeism, p. 17)

Days Lost by Cause per Employee

| Cause | 1940 | 1941 |
|---|---|---|
| Total | 24.81 | 22.04 |
| Sickness | 9.44 | 7.83 |
| Transportation | .04 | .02 |
| Permission | 1.22 | 1.26 |
| Suspended | .06 | .03 |
| Vacation | 6.72 | 6.82 |
| Laid off | 6.42 | 5.13 |
| Injured | .18 | .20 |
| No excuse | .13 | .11 |
| Sickness in family | .59 | .64 |

* Non-industrial group

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

Companies Whose Absenteeism Reports Are Summarized Here or Whose Records Are Described in National Industrial Conference Board Report No. 46 - Reducing Absenteeism

1. Curtiss-Wright, St. Louis, Mo. (Statement made that absenteeism under 3 percent; no higher for women than men.)
2. Remington Arms Company (N. I. C. B.
3. The Koppers Co. (N. I. C. B.)
4. The Owens-Illinois Glass Company (N. I. C. B.)
5. Consolidated Edison Co. of New York (N. I. C. B.)
6. American Pulley Company (N. I. C. B.)
7. Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa. (visited by Mettert and Ziegler)
8. General Electric, Erie, Pa. plant (System of visitors for daily checking of absentees) Letter written to Miss Lucy Norton, Personnel Director for Women.
9. General Motors Corp., Fisher Body Division
10. New England Telephone and Telegraph Co.
11. Kollsman Division Square D Company - Louisville, Ky. (average absenteeism under 1 percent)

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

## ABSENTEEISM REPORTS - UNITED STATES

### I - ILLNESS

(1) U. S. Public H. S. Reports, Apr. 24, 1942 - Employees of Boston Edison 1938-41 (one day or longer)

(2) U. S. Public H. S. Reports, Sept. 4, 1942.- Disabling Morbidity Among Male and Female Industrial Workers During 1941. p. 1344-1347 (latest in series)

(3) National Institute of Health and Milbank Memorial Fund in Milbank Memorial Fund Quarterly, July 1942 - Severity of Illness Among Males and Females(Balti.)

(4) National Health Survey, 1935-36 - Men and Women Disabled on Day of Canvass (15-64 years)

(5) N. I. H. P. H. S. Reports, Jan. 6, 1939, Nonindustrial Injuries Among Male and Female Industrial Employees. Data through 1937)

(6) New England Journal of Medicine - Industrial Health and the War, by Daniel L. Lynch, M.D. (1940) Types of Illness Compared Men and Women and Medical Prevention.

(7) Wastinghouse group (unpublished) Men and Women, 6 months of Illnesses, 1942, Salaried employees.

(8) Industiral Hygience Foundation (then Air Hygience Foundation) Sick Absenteeism in Industry, Its Extent, Its Causes and Control.

(9) General Motors Corp., The Substandard Worker, Physical Exam & Placement. Industrial Medicine, June 1942. (Lost time Male and Female from Illness.)

(10) General Motors Corp., Sickness Absenteeism. A. T. Court, Industrial Medicine, June 1942. (Rates)

### II - ALL CAUSES

(1) Consolidated Aircraft Corp., (unpublished report) Absenteeism of Hourly Employees (Absences, not sick absences)

## ABSENTEEISM IN BRITAIN

(1) Monthly Labor Review, Nov. 1941, p. 1164 - Absenteeism in British Plants (reasons and preventives)

(2) Review of Economic Studies, Summer 1942, - Voluntary Absenteeism in the Cutlery Trades (male and female)

(3) J. Industrial Hygiene & Toxicology - Health in Industy (rates male and female)

(4) Labor Market, Sept. 1942, p. 10 ff. - Control of Absenteeism and Lateness in British Armament Industries.

(5) V. J. Gosden, Absenteeism in Munitions - The Newer and Younger Workers, in Manchester Guardian, May 1, 1942. (rates women part-time, married women, etc., causes.)

(6) Vernon, H. M. - "Health in Relation to Occupation", Oxford University Press, London, 1939.

U. S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
Washington 25, D. C.

For release: Sunday Editions
July 27, 1947

Kossoris — 329

Statement of Ewan Clague, Commissioner of Labor Statistics

on

## THE EFFECTS OF HOURS OF WORK ON EFFICIENCY, ABSENTEEISM, AND WORK INJURIES

A recently completed survey by the Bureau of Labor Statistics indicates that the 5-day week and 8-hour day tend to yield better results in terms of efficiency, absenteeism, and work injuries than did longer daily and weekly hours. In most instances, and up to a certain point, longer hours yielded higher levels of total weekly output. But the increase in output did not measure up to the increase in hours. As a rule, workers under wage incentives and at routine and repetitive jobs in which the workers were in complete control over the speed of operations were able to obtain only 2 hours of output for every 3 hours of work when hours exceeded 48 per week. Up to the 48-hour level, efficiencies were fairly well maintained, although the total weekly output level suffered from greater absenteeism and a higher incidence of work injuries. In terms of labor costs, hours in excess of 48 per week meant 4½ hours' pay for 2 hours of output.

The study did not permit a determination of the comparative effects of weekly hours of less than 40. Furthermore, because output data were rarely encountered for workers not under incentive systems, the data obtained apply almost entirely to workers paid under some form of incentive system, such as piecework, bonus system, or prescribed output levels for specified wage rates.

Absenteeism.—As a rule, absenteeism increased as hours increased, and particularly when a sixth or seventh workday was added per week. In part, the higher absenteeism was caused by a higher incidence of work injuries, and in part from the need for more rest or the urgency of personal matters.

This was particularly true for women. Their absenteeism rates were invariably higher than those of men, regardless of the schedule of hours worked. The most important reason for this was the need to tend to household duties in addition to the job in the plant. In some plants absenteeism of women on Saturday was a high as 15 or 20 percent.

Work Injuries.--Longer hours usually resulted in a higher frequency of work injuries. Sometimes a strong safety organization was able to hold down the increase to match the lengthening of hours. But at times the injuries increased at great disproportions, regardless of managements' efforts. For example, in one plant an increase in weekly hours from 40 to 48 increased the injury frequency rate by 50 percent. The same percent of increase was observed in another plant when hours were raised from 48 to 54, and in a third plant where hours were increased from 54 to 60. Lengthening weekly hours from 48 to 60, by raising daily hours from 8 to 10, tripled the injury frequency rate in a fourth plant. Although the situation varied as between plants, higher hours usually brought with them a disproportionate increase in injuries.

*Limits on Weekly Output.*—During the war, the overriding emphasis was on output at any cost. But even on this basis, instances were found in which the output level during long hours was no better, and sometimes only slightly better, than very much shorter schedules. For example, the weekly output per man in a large forge shop, where work was heavy and hot, was no better during a 58-hour week than it had been during an earlier 50-hour week—5 days at 10 hours—and probably would have dropped still lower if the plant had not reverted to the 50-hour schedule. A plant producing shells produced only slightly more during a 60- and 66-hour week than it had at 40 hours. The output of the longer weekly schedules could have been achieved easily in 44 or 45 hours. As a general rule, workers at repetitive operations could have produced nearly as much in 48 hours—6 days at 8 hours—as they did during 54 hours or more.

*Daily Pattern of Efficiency.*—An analysis of daily output data indicates that the effects of fatigue on the part of the workers were not reserved for the overtime hours. During the 5-day, 40-hour week, daily efficiency tended to work up to a peak on Wednesday or Thursday, with only a slight drop on Friday. When daily hours were extended to 9 or 10, but still retaining the 5-day week, the midweek spurt disappeared, and one day was about as good as another. When a sixth day was added, usually of 8 hours, the daily output pattern dropped to a still lower level.

The pattern of hourly work schedules followed during the war was far from uniform. Some plants tried to retain the 5-day week but increased daily hours. Others maintained daily hours, but added a sixth, and some a seventh, day. Some plants tried operating around the clock with three shifts and subsequently swung over to two shifts of longer daily and weekly hours because of labor shortages. Others did exactly the reverse—tried to go as long as they could with the existing work force but made it work long hours and then switched to more and shorter shifts when it became clear that the longer hours were too fatiguing to yield the desired results.

Generally, the addition of a sixth day at 8 hours to a 40-hour week had little effect on efficiency, although absenteeism was somewhat higher, particularly for women. The depressing effect of the longer workweek made itself felt when daily hours were raised to 9, 10, or 11. The effects of the longer schedules varied with the type of work and the conditions under which it was performed. As a consequence, the results of the longer schedules were far from uniform. Nevertheless, as a rule, while hours usually were not so long as to depress total output below what it had been at 40 hours, the longer hours were not as effective—hour for hour—as the shorter schedules. American industry rarely attempted the 72- and 64-hour schedules which Great Britain had used early in the war—and had given up as ineffective.

Sunday Work.--Sunday work as part of a 7-day week was found to be undesirable. Men who worked Sunday at double pay, frequently took off on some other day. Efficiency suffered substantially, even when daily hours remained unchanged at 8. One plant, on a 7-day week, was getting only 6 days' output for 8½ days' pay. Total output was just as good in 6 days when Sunday work was eliminated. In another plant, efficiency spurted by nearly 23 percent, and absenteeism dropped from 11 percent to less than 7 percent, when work on every other Sunday was eliminated for female workers.

On the other hand, work on every other Sunday was found to be preferable to irregular overtime for men, with hours sometimes as long as 15 per day.

Prewar, War, and Postwar Comparison.--In a number of plants it was possible to compare worker performance during the war with both prewar and postwar performance. With few exceptions, the workers studied worked harder during the war than they had before. Under piecework and other incentive systems, and with a war to win, these workers were as efficient at 48 hours as they formerly had been at 40. And when the war ended, and they reverted to 40 hours, their efficiencies increased. In part, the explanation for this may be that the workers tried to recoup some of the pay they lost because of the curtailing of hours.

The same effect was noted when a 5½-day week was substituted for a 6-day week without a change in daily hours. The output level for men was nearly as good during a 44- or 45-hour week as it had been under the 6-day week at 48 or 50 hours. Here again, the effect may be ascribed to the desire to make up for the lost pay, particularly when the last workday was short.

Degree of Operator Control.--The results described apply primarily to operations which are essentially routine and repetitive, and completely operator-paced.

Where the work was essentially machine-paced but not automatic, the findings as to efficiency held true to a lesser degree. In these types of operations, usually encountered on metal-working machines, the operator can influence output only during the relatively short period during which he removes processed materials from the machine and replaces them with materials to be processed. Here too, hourly efficiency decreased as hours exceeded 48, but to a lesser extent. But both absenteeism and work injuries increased.

In contrast, hourly efficiency was better during longer hours on automatic machines, such as screw machines. In these types of operations the worker feeds the stock into the machines and gauges for accuracy of operations, but does not have to work at a fast pace continuously. Here hourly output during the longer hours was slightly better than during the shorter hours because nonproductive time (getting ready and cleaning up) was spread over a longer operating period. Nevertheless, absenteeism and injuries were considerably higher at the longer schedule of daily and weekly hours.

Coverage.--The survey covered 34 plants with various daily and weekly patterns of hours in a considerable variety of manufacturing activities. The effects of every pattern of hours were observed for a period of at least 6 months, and frequently for a year or more, for groups of identical workers who worked at the same jobs during each of the hourly patterns observed, and usually under a wage-incentive system. The qualifications for worker selection were set up in such a way as to exclude, as far as possible, the effects of all variables except working hours.

Statement No. 4317

INTERSTATE COMMERCE COMMISSION
Bureau of Transport Economics and Statistics
Washington

## Number of Females Employed by Class I Steam Railways, Month of January 1943, (Excluding Switching and Terminal Companies)

| Reporting division | Number of employees at middle of month | | |
|---|---|---|---|
| | Male and female employees | Female employees | Percent female |
| **I. EXECUTIVES, OFFICIALS, AND STAFF ASSISTANTS** | | | |
| Executives, general officers, and assistants . | 6,177 | 11 | 0.18 |
| Division officers, assistants, and staff assistants ........................ | 7,416 | 7 | .09 |
| Total (executives, officials, and staff assistants) ........................ | 13,593 | 18 | .13 |
| **II. PROFESSIONAL, CLERICAL, AND GENERAL** | | | |
| Professional and subprofessional assistants .. | 7,045 | 67 | .95 |
| Supervisory or chief clerks (major departments) | 3,400 | 47 | 1.38 |
| Chief clerks (minor departments) and assistant chief clerks and supervising cashiers ...... | 10,019 | 333 | 3.32 |
| Clerks and clerical specialists (A) .......... | 10,345 | 692 | 6.69 |
| Clerks (B and C) ........................... | 103,805 | 21,683 | 20.89 |
| Mechanical device operators (office) ......... | 7,535 | 5,893 | 78.21 |
| Stenographers and secretaries (A) ............ | 3,445 | 1,699 | 49.32 |
| Stenographers and typists (B) ................ | 15,419 | 11,198 | 72.62 |
| Storekeepers, sales agents, and buyers ....... | 2,244 | 13 | .58 |
| Ticket agents and assistant ticket agents .... | 1,217 | 81 | 6.66 |
| Traveling auditors or accountants ............ | 1,293 | 2 | .15 |
| Telephone switchboard operators and office assistants ............................ | 4,822 | 3,978 | 82.50 |
| Messengers and office boys ................... | 3,953 | 1,068 | 27.02 |
| Elevator operators and other office attendants | 952 | 120 | 12.61 |
| Lieutenants and sergeants of police .......... | 1,819 | 5 | .27 |
| Patrolmen and watchmen ....................... | 11,311 | 7 | .06 |
| Traffic and various other agents, inspectors, and investigators ....................... | 10,482 | 72 | .69 |
| Claim agents or investigators ................ | 864 | 4 | .46 |
| Freight claim agents or investigators ........ | 379 | 11 | 2.90 |
| Miscellaneous trades workers (other than plumbers) ................................ | 817 | 18 | 2.20 |
| Motor vehicle and motor car operators ........ | 3,470 | 36 | 1.04 |
| Janitors and cleaners ........................ | 5,560 | 1,111 | 19.98 |
| Total (professional, clerical, and general) ............................ | 210,196 | 48,138 | 22.90 |

Note.--This is the first issue of a new statistical series. Similar data will be published at three-month intervals. The next statement will cover the month of April 1943.

| Reporting division | Number of employees at middle of month | | |
|---|---|---|---|
| | Male and female employees | Female employees | Percent female |
| III. MAINTENANCE OF WAY AND STRUCTURES | | | |
| Bridge and building carpenters | 14,228 | 1 | 0.01 |
| Bridge and building painters | 2,652 | 5 | .19 |
| Maintenance of way and structures helpers and apprentices | 7,918 | 6 | .08 |
| Portable steam equipment operator helpers | 548 | 1 | .18 |
| Pumping equipment operators | 2,096 | 5 | .24 |
| Gang foremen (extra gang and work-train laborers) | 3,902 | 1 | .03 |
| Extra gang men | 43,588 | 375 | .86 |
| Section men | 132,884 | 260 | .20 |
| Maintenance of way laborers (other than track and roadway) and gardeners and farmers | 4,139 | 91 | 2.20 |
| Total (maintenance of way and structures) | 211,955 | 745 | .35 |
| IV. MAINTENANCE OF EQUIPMENT AND STORES | | | |
| Equipment, shop, electrical, material and supplies inspectors | 2,059 | 1 | .05 |
| Gang foremen and gang leaders (skilled labor) | 7,746 | 2 | .03 |
| Boilermakers | 13,531 | 2 | .01 |
| Carmen (A and B) | 17,773 | 12 | .07 |
| Carmen (C and D) | 56,925 | 4 | .01 |
| Electrical workers (A) | 8,322 | 2 | .02 |
| Electrical workers (B) | 2,556 | 2 | .08 |
| Machinists | 47,702 | 4 | .01 |
| Sheet-metal workers | 10,317 | 1 | .01 |
| Skilled trades helpers (M. of E. and Stores) | 86,686 | 1,039 | 1.20 |
| Coach cleaners | 11,639 | 3,263 | 28.04 |
| Gang foremen (shops, enginehouses, and power plants) | 1,293 | 55 | 4.25 |
| Gang foremen (stores and ice, reclamation, and timber-treating plants) | 1,185 | 13 | 1.10 |
| Classified laborers (shops, enginehouses, and power plants) | 26,637 | 1,005 | 3.77 |
| General laborers (shops, enginehouses, and power plants) | 25,789 | 2,629 | 10.19 |
| General laborers (stores and ice, reclamation, and timber-treating plants) | 16,430 | 1,386 | 8.44 |
| Stationary engineers (steam) | 1,681 | 15 | .89 |
| Stationary firemen, oilers, coal passers, and water tenders | 3,410 | 4 | .12 |
| Total (maintenance of equipment and stores) | 341,681 | 9,439 | 2.76 |

| Reporting division | Number of employees at middle of month | | |
|---|---|---|---|
| | Male and female employees | Female employees | Percent female |
| **V. TRANSPORTATION (OTHER THAN TRAIN, ENGINE, AND YARD)** | | | |
| Train dispatchers | 3,257 | 2 | 0.06 |
| Station agents (supervisory--major stations--nontelegraphers) | 2,238 | 1 | .04 |
| Station agents (smaller stations--nontelegraphers) | 5,323 | 274 | 5.15 |
| Station agents (telegraphers and telephoners) | 14,153 | 266 | 1.88 |
| Chief telegraphers and telephoners or wire chiefs | 833 | 5 | .60 |
| Clerk-telegraphers and clerk-telephoners | 10,352 | 585 | 5.65 |
| Telegraphers, telephoners, and towermen | 15,461 | 751 | 4.86 |
| Baggage agents and assistants | 346 | 13 | 3.76 |
| Baggage, parcel room, and station attendants | 8,280 | 594 | 7.17 |
| Callers, loaders, scalers, sealers, and perishable-freight inspectors | 10,788 | 28 | .26 |
| Truckers (stations, warehouses, and platforms) | 24,329 | 181 | .74 |
| Laborers (coal and ore docks and grain elevators) | 769 | 1 | .13 |
| Common laborers (stations, warehouses, platforms, and grain elevators) | 4,348 | 31 | .71 |
| Stewards, restaurant and lodging-house managers, and dining-car supervisors | 1,772 | 87 | 4.91 |
| Chefs and cooks (restaurants or dining cars). | 5,650 | 72 | 1.27 |
| Waiters, camp cooks, kitchen helpers, etc. | 14,984 | 1,186 | 7.92 |
| Officers, workers, and attendants on barges, launches, ferry boats, towing vessels, and steamers, and shore workers | 6,190 | 47 | .76 |
| Transportation and dining-service inspectors | 661 | 2 | .30 |
| Train attendants | 3,546 | 94 | 2.65 |
| Bridge operators and helpers | 905 | 3 | .33 |
| Crossing and bridge flagmen and gatemen | 13,191 | 264 | 2.00 |
| Foremen (laundry and laundry workers | 548 | 356 | 64.96 |
| Total (transportation--other than train, engine, and yard) | 147,924 | 4,843 | 3.27 |
| **VI. (b). TRANSPORTATION (TRAIN AND ENGINE)** | | | |
| Road passenger brakemen and flagmen | 9,668 | 4 | .04 |
| Total (transportation--train and engine) | 9,668 | 4 | .04 |
| Total of reporting divisions in which females are included | 935,017 | 63,187 | 6.76 |
| Grand total, all reporting divisions | 1,319,480 | 63,187 | 4.79 |

**UNITED STATES DEPARTMENT OF LABOR**
Frances Perkins, *Secretary*

**BUREAU OF LABOR STATISTICS**
Isador Lubin, *Commissioner* (on leave)
A. F. Hinrichs, *Acting Commissioner*

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# Absenteeism in Commercial Shipyards

by

**ELEANOR V. KENNEDY**

## *Bulletin No. 734*

**[Reprinted from the Monthly Labor Review, February 1943, with additional data]**

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1943

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington, D. C. - Price 5 cents

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## LETTER OF TRANSMITTAL

United States Department of Labor,
Bureau of Labor Statistics,
*Washington, D. C., February 20, 1943.*

The Secretary of Labor:

I have the honor to transmit herewith a report on absenteeism in commercial shipyards. This report was prepared in the Division of Construction and Public Employment, Herman B. Byer, Chief.

A. F. Hinrichs, *Acting Commissioner.*

Hon. Frances Perkins,
*Secretary of Labor.*

*Bulletin No. 734 of the*

*United States Bureau of Labor Statistics*

[Reprinted from the MONTHLY LABOR REVIEW, February 1943, with additional data]

# ABSENTEEISM IN COMMERCIAL SHIPYARDS, 1942

By ELEANOR V. KENNEDY, *Bureau of Labor Statistics*

## *Summary*

ABSENTEEISM in commercial shipyards fluctuated around 7 or 8 percent from April through October 1942. In 81 yards which reported throughout this period, absenteeism rose irregularly from 6.7 percent in April to 7.8 percent in October. In these yards in the midweek of October the time thus lost was equivalent to 4 hours during the week for each wage earner on the pay roll.

Absenteeism is the failure of workers to report on the job when they are scheduled to work. It is a broad term which is applied to time lost because sickness or accident prevent a worker from being on the job, as well as to unauthorized time away from the job for other reasons. Workers who quit without notice are also counted as absentees until they are officially removed from the pay roll. Although absenteeism is a continuing problem of industry, it is only in periods when manpower is at a premium and maximum production is a national necessity that absenteeism becomes a matter of grave concern.

In yards along the Atlantic, Pacific, and Gulf Coasts absenteeism rates were higher than in yards in the Great Lakes and Inland areas. The rates varied widely from one yard to another, ranging from less than 2 percent to over 20 percent of working time. Wide month-to-month variations in the same yard were also reported. A few days of bad weather were frequently responsible for unusually high absenteeism in a yard.

In general, large yards had higher rates of absenteeism than small yards. This fact may explain some of the differences between areas, as the largest yards are all on the Atlantic, Pacific, and Gulf Coasts.

Company officials regarded poor housing and transportation facilities and the necessity of recruiting inexperienced workers, many of whom quit without giving notice, as the major causes of absenteeism. They were practically unanimous in stating that absenteeism was highest on week ends.

## *Scope and Method of Study*

The Bureau of Labor Statistics, acting as agent for the War Production Board, collects monthly reports of operations from shipbuilding and ship-repair companies in the United States. Since April

1942, companies engaged in the construction of new vessels have been requested to report the amount of time lost by wage earners because of absenteeism. The yards from which these monthly reports are received employ almost 90 percent of all wage earners engaged on new construction in commercial yards. Because of the irregular working schedules in ship-repair yards, absenteeism data are not collected from companies engaged primarily in repair work.

Absenteeism is measured by the full man-days on which persons scheduled to work fail to appear. Tardiness, or fraction-of-day absences, vacations, authorized days off, and lay-offs are not included. The number of absentees is compiled from daily attendance records and is multiplied by the scheduled working hours to get total man-hours lost from absenteeism.

Rates of absenteeism may be computed in a variety of ways. Unless otherwise noted, the rates given in this article represent the ratio of man-hours lost to man-hours worked plus man-hours lost by wage earners during the midweek of the month.[1]

In addition to collecting the monthly reports on absenteeism, in July 1942 the Bureau of Labor Statistics made a special inquiry of the causes of absenteeism in 20 selected shipyards which had reported absenteeism rates of 6 percent or more. The 4 largest shipbuilding zones were represented in the sample, and the particular yards were selected because their operations were considered representative. Each yard was asked to submit daily records of absenteeism over a 2-week period, and company officials were requested to state what they considered the major causes of absenteeism.

## *Difficulties in Measuring Absenteeism*

Some absenteeism is accepted as a normal factor in industrial operations. However, only sporadic studies of the extent of absenteeism have been made and there are no regularly compiled statistical series (such as have long been available on employment, earnings, industrial accidents, and labor turn-over) to trace the changes in the amount of absenteeism over a period of years and to evaluate differences among industries. Also, because no standardized procedure has been established either for collecting the basic statistical data or for computing absenteeism rates, it is difficult to compare the results of such studies as have been made.

Few companies keep detailed records of absenteeism or require workers to explain their absences. An additional complication is the fact that practice varies in individual companies on such points as the length of time during which a worker who fails to appear is carried as an absentee before he is regarded as a "quit." Some companies count such workers as absentees for as long as a month, whereas others remove their names from the pay roll after 2 or 3 days. Moreover, policies regarding the granting of vacations and authorizing time off, which undoubtedly have some bearing on the amount of unauthorized leave which employees take, vary from company to company as well as from time to time within the same company.

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[1] Other methods of computing absenteeism commonly used are: (a) Ratio of man-hours lost to man-hours actually worked; (b) average time lost per employee; and (c) ratio of number of absentees to the total number on the pay roll. (In the last method of computation, the average daily attendance for the week is expressed as a percentage of the total number on the pay roll; the difference between this ratio of average daily attendance and 100 percent is the percent of absenteeism for the week.)

It is difficult, therefore, to determine the irreducible minimum of absenteeism occasioned by sickness and accidents and similar causes beyond the control of either management or labor, and that which is due to irresponsibility among the workers, or to managerial or governmental policies which lower worker morale.

## *Absenteeism in 1918*

What was probably one of the most thorough early studies of absenteeism also dealt with the shipbuilding industry. During the first World War the Emergency Fleet Corporation made a survey of absenteeism in 90 shipyards, for which continuous weekly records were available from January to September 1918, inclusive. These yards employed 320,000 workers in September 1918.

The results of that survey, which are summarized in table 1, show that, during the 9-month period, on the average almost 18 percent of the workers in steel-ship yards were absent daily. The monthly rates varied from 26 percent in January to 13 percent in June. Absenteeism was lower in yards building wooden ships than in those building steel ships; the 9-month average for wooden-ship yards was about 13 percent. For both wooden-ship and steel-ship yards there was wide variation in the extent of absenteeism in different shipbuilding districts. Absenteeism was highest in yards in the Northern Atlantic States and lowest in those on the Pacific Coast. This fact, together with the observation that absenteeism was greater in the winter than in the spring and summer months, led to the conclusion at that time that climatic reasons were a large factor in absenteeism in shipbuilding.[2]

TABLE 1.—*Absenteeism Among All Employees of 90 Shipbuilding Companies, January–September 1918* [1]

| District | Steel-ship yards | | | | | Wooden-ship yards | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number of yards reporting | Daily absentees as a percent of all employees | | | | Number of yards reporting | Daily absentees as a percent of all employees | | | |
| | | 9 months | First quarter | Second quarter | Third quarter | | 9 months | First quarter | Second quarter | Third quarter |
| All districts | 48 | 17.8 | 22.3 | 16.0 | 16.5 | 42 | 13.2 | 14.7 | 12.1 | 13.4 |
| Atlantic | 7 | 23.7 | 31.0 | 23.0 | 19.6 | 12 | 15.1 | 20.0 | 13.7 | 14.5 |
| Delaware River | 6 | 16.9 | 20.9 | 14.6 | 16.4 | ------ | ------ | ------ | ------ | ------ |
| Middle Atlantic | 2 | 23.5 | 28.7 | 20.7 | 22.7 | 2 | 21.3 | 25.7 | 21.4 | 20.0 |
| Southern | 4 | 14.5 | 12.7 | 16.6 | 13.8 | 4 | 19.1 | 19.4 | 17.4 | 20.3 |
| Gulf | ------ | ------ | ------ | ------ | ------ | 5 | 19.4 | 20.5 | 16.9 | 21.2 |
| Great Lakes | 14 | 15.8 | 20.1 | 14.4 | 14.6 | 1 | 11.4 | 17.5 | 10.8 | .8 |
| North Pacific | 8 | 12.4 | 9.9 | 11.3 | 15.3 | 6 | 8.4 | 10.1 | 7.7 | 8.2 |
| No. II [2] | ------ | ------ | ------ | ------ | ------ | 7 | 8.4 | 8.9 | 8.1 | 8.5 |
| South Pacific | 4 | 10.7 | 11.3 | 9.3 | 11.6 | 5 | 8.0 | 11.1 | 7.4 | 6.6 |
| Fabricated [3] | 3 | 21.6 | 30.2 | 18.5 | 18.0 | ------ | ------ | ------ | ------ | ------ |

[1] From Journal of Political Economy, May 1919, p. 387.
[2] Includes all wooden-ship yards in Oregon and on Columbia River, except those of Coos Bay.
[3] Includes yards where parts fabricated in other plants are assembled.

The 1918 survey was made when the shipbuilding industry was experiencing a wartime expansion similar to that at the present time, and absenteeism was considered extremely high. Unfortunately, it is impossible to make direct comparisons of absenteeism rates in 1918 and 1942, because of basic differences in the coverage of the data and the methods of computing the rates. The 1918 study was based on continuous weekly records for all employees, while current reports are for the midweek of the month and cover wage earners only. The 1918 rates were computed on the basis of the percent that the average daily absentees were of the total employees on the pay roll, whereas the 1942 rates were computed on the basis of man-hours lost in relation to man-hours worked plus man-hours lost.

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[2] For a more complete discussion, see Journal of Political Economy, May 1919 (pp. 362–396): Labor Administration in the Shipbuilding Industry During War Time, by P. H. Douglas and F. E. Wolfe.

## *Absenteeism in 1942*

Absenteeism in shipyards fluctuated around 7 or 8 percent during the 7 months from April through October 1942. Shipyard employment expanded rapidly during this period, and with this expansion there was some tendency for absenteeism to increase. Time lost from absenteeism in 81 identical shipyards which reported each month rose irregularly from 6.7 percent in April to 7.8 percent in October

### VARIATIONS AMONG SHIPBUILDING ZONES

Absenteeism was more prevalent among workers in yards on the Atlantic and Gulf Coasts than in the other shipbuilding zones shown in table 2. Throughout the 7-month period the Atlantic Coast rates were above the rates for all zones combined. Absenteeism fluctuated more from month to month in Gulf Coast yards than in any other area, and in some months rates for the Gulf area exceeded those for Atlantic Coast yards. Yards in the Great Lakes zone consistently reported the lowest rates, ranging between 3.1 percent in August and 4.2 percent in April. Absenteeism rates in the Inland yards were somewhat higher than in the Great Lakes area, but well below those in the other 3 zones. Throughout the summer, absenteeism rose in yards on the Pacific Coast, and in October this area had almost as high a rate as the Atlantic Coast yards.

**Table 2.**—*Absenteeism in 81 Identical Commercial Shipyards,*[1] *by Shipbuilding Zone,*[2] *April–October 1942*

| Month | Man-hours lost as a percent of man-hours worked plus man-hours lost | | | | | | Man-hours lost per week per wage earner on pay roll | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All zones | Atlantic Coast | Gulf Coast | Pacific Coast | Great Lakes | Inland | All zones | Atlantic Coast | Gulf Coast | Pacific Coast | Great Lakes | Inland |
| April | 6.7 | 7.8 | 6.6 | 5.7 | 4.2 | 4.4 | 3.4 | 4.2 | 3.7 | 2.7 | 2.1 | 2.6 |
| May | 6.5 | 7.7 | 7.3 | 4.9 | 3.7 | 3.7 | 3.3 | 4.1 | 4.1 | 2.4 | 1.8 | 2.2 |
| June | 7.2 | 7.6 | 8.3 | 6.8 | 3.3 | 4.2 | 3.8 | 4.1 | 4.5 | 3.4 | 1.7 | 2.5 |
| July | 7.3 | 8.2 | 6.7 | 6.8 | 3.4 | 4.7 | 3.8 | 4.4 | 3.7 | 3.3 | 1.7 | 2.8 |
| August | 7.4 | 8.7 | 5.4 | 7.3 | 3.1 | 4.0 | 3.8 | 4.6 | 2.9 | 3.5 | 1.6 | 2.4 |
| September | 7.4 | 8.2 | 6.7 | 7.3 | 3.4 | 4.6 | 3.8 | 4.4 | 3.5 | 3.5 | 1.7 | 2.6 |
| October | 7.8 | 8.0 | 8.9 | 7.7 | 3.5 | 5.6 | 4.0 | 4.2 | 4.9 | 3.7 | 1.8 | 3.2 |

[1] These 81 shipyards employed 60 percent of the total number of wage earners in commercial shipyards engaged in new construction in April. Although employment increased in the 81 yards from April to October, they had only 53 percent of all wage earners in October.

[2] The Atlantic, Pacific, and Gulf Coast and Great Lakes zones are those recognized by the Shipbuilding Stabilization Committee; the Inland zone is the Ohio-Mississippi Valley area.

The average time lost from absenteeism amounted to 4 hours per week for each wage earner on the pay roll in the midweek of October. In the Great Lakes yards the time lost averaged less than 2 hours per week, but in Gulf Coast yards it was almost 5 hours.

The shipbuilding zones with the highest absenteeism rates included by far the largest share of shipyard workers. In October almost 42 percent of all wage earners in commercial yards engaged in new construction were working in yards situated on the Atlantic Coast, 37 percent were in Pacific Coast yards, and 15 percent were in Gulf Coast yards. Thus, nearly 94 percent of the wage earners were in areas where absenteeism averaged at least 7.7 percent in October. Yards in the Great Lakes area had less than 5 percent of the workers and Inland yards less than 2 percent.

### VARIATIONS AMONG YARDS

Opinion varies as to where to draw the line between absenteeism which must be expected as a "normal" part of industrial operations and that caused by situations which, theoretically at least, could be remedied. However, the wide variation in the absenteeism rates of individual shipyards, shown in table 3, leads to the conclusion that in some yards absenteeism far exceeds that which can be explained by sickness and accidents and a moderate amount of time off for other reasons. In April, 57 of the 81 yards for which absenteeism records were available each month reported that man-hours lost from absenteeism were less than 6 percent. These 57 yards employed 47 percent of the wage earners in the 81 reporting yards. More than half of the wage earners in the 81 yards worked in yards where absenteeism was equal to 4 to 8 percent in April. If 8 percent is arbitrarily set as the maximum amount of absenteeism which can be regarded as "normal" in shipyards, it would appear that excessive absenteeism occurred in yards with almost 25 percent of the wage earners in April.

**Table 3.**—*Distribution of 81 Identical Commercial Shipyards According to Absenteeism Rates* [1] *in April and October 1942*

| Absenteeism rate | April 1942 | | October 1942 | |
|---|---|---|---|---|
| | Number of yards | Percent of total wage earners in 81 yards | Number of yards | Percent of total wage earners in 81 yards |
| Total | 81 | 100.0 | 81 | 100.0 |
| 0.1 and under 2 percent | 17 | 9.2 | 13 | 7.7 |
| 2 and under 4 percent | 25 | 13.0 | 19 | 6.0 |
| 4 and under 6 percent | 15 | 25.0 | 16 | 19.8 |
| 6 and under 8 percent | 13 | 28.2 | 13 | 23.1 |
| 8 and under 10 percent | 4 | 8.6 | 8 | 11.2 |
| 10 and under 12 percent | 4 | 7.9 | 5 | 19.2 |
| 12 and under 14 percent | 2 | 1.6 | 3 | 7.0 |
| 14 and under 16 percent | 0 | 0 | 2 | 5.0 |
| 16 and under 18 percent | 1 | 6.5 | 1 | .9 |
| 18 percent and over | 0 | 0 | [2] 1 | .1 |

[1] Ratio of man-hours lost to man-hours worked plus man-hours lost.

[2] Absenteeism rate between 20 and 30 percent.

By October, employment in these same 81 yards had increased 50 percent, and the number of yards reporting absenteeism rates of 8 percent or more had grown. Less than 34 percent of the wage earners in October worked in yards where absenteeism was under 6 percent, while more than 43 percent were in yards where the rate was 8 percent or more.

Absenteeism appeared to be more of a problem in large shipyards than in small ones. Although the figures in table 4 show that some yards with fewer than 500 wage earners in October reported absenteeism of 8 percent or more, in three-fourths of these yards absenteeism was below 6 percent. In a few yards with 5,000 or more wage earners absenteeism was kept below 6 percent, but almost half of these large yards reported rates of 8 percent or more.

Table 4 throws some light on the differences in the extent of absenteeism in various shipbuilding zones which were observed earlier. Practically all of the yards in the Great Lakes and Inland zones, where absenteeism was lowest, had fewer than 5,000 wage earners each. As a matter of fact, employment in over half of the yards in these 2 zones was below 500 each in October. In practically 9 out of 10 yards in these areas absenteeism was kept below 8 percent.

**Table 4.**—*Distribution of All Commercial Shipyards Reporting in October 1942, According to Absenteeism Rates* [1] *and Size and Location of Yards*

| Zone and absenteeism rate | Number of yards distributed according to number of wage earners | | | | | | |
|---|---|---|---|---|---|---|---|
| | All yards | Less than 500 | 500 and under 1,000 | 1,000 and under 5,000 | 5,000 and under 10,000 | 10,000 and under 20,00 | 20,000 and over |
| All zones | 206 | 102 | 32 | 35 | 13 | 12 | 12 |
| 0.1 and under 2 percent | 41 | 28 | 6 | 5 | 1 | 0 | 1 |
| 2 and under 4 percent | 51 | 27 | 11 | 10 | 2 | 0 | 1 |
| 4 and under 6 percent | 47 | 22 | 8 | 9 | 2 | 4 | 2 |
| 6 and under 8 percent | 29 | 16 | 2 | 5 | 2 | 3 | 1 |
| 8 and under 10 percent | 18 | 5 | 3 | 3 | 3 | 1 | 3 |
| 10 and under 12 percent | 8 | 2 | 0 | 1 | 0 | 2 | 3 |
| 12 and under 14 percent | 4 | 0 | 0 | 0 | 2 | 1 | 1 |
| 14 percent and over | 8 | 2 | 2 | 2 | 1 | 1 | 0 |
| Atlantic, Gulf, and Pacific zones | 157 | 75 | 20 | 26 | 12 | 12 | 12 |
| 0.1 and under 2 percent | 33 | 21 | 6 | 4 | 1 | 0 | 1 |
| 2 and under 4 percent | 34 | 20 | 6 | 6 | 1 | 0 | 1 |
| 4 and under 6 percent | 33 | 15 | 5 | 5 | 2 | 4 | 2 |
| 6 and under 8 percent | 23 | 12 | 0 | 5 | 2 | 3 | 1 |
| 8 and under 10 percent | 16 | 4 | 2 | 3 | 3 | 1 | 3 |
| 10 and under 12 percent | 7 | 1 | 0 | 1 | 0 | 2 | 3 |
| 12 and under 14 percent | 4 | 0 | 0 | 0 | 2 | 1 | 1 |
| 14 percent and over | 7 | 2 | 1 | 2 | 1 | 1 | 0 |
| Great Lakes and Inland zones | 49 | 27 | 12 | 9 | 1 | 0 | 0 |
| 0.1 and under 2 percent | 8 | 7 | 0 | 1 | 0 | 0 | 0 |
| 2 and under 4 percent | 17 | 7 | 5 | 4 | 1 | 0 | 0 |
| 4 and under 6 percent | 14 | 7 | 3 | 4 | 0 | 0 | 0 |
| 6 and under 8 percent | 6 | 4 | 2 | 0 | 0 | 0 | 0 |
| 8 and under 10 percent | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| 10 and under 12 percent | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 12 and under 14 percent | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 percent and over | 1 | 0 | 1 | 0 | 0 | 0 | 0 |

[1] Ratio of man-hours lost to man-hours worked plus man-hours lost.

All the very large shipyards, i. e., those with more than 10,000 wage earners each in October, were on the Atlantic, Pacific, or Gulf Coasts. Half of these large yards reported that absenteeism was at least 8 percent in October. Similarly high absenteeism occurred in half of the yards with 5,000 to 10,000 wage earners in these 3 zones. However, the small yards in these areas reported absenteeism rates which compared very favorably with those reported by similar yards in the Great Lakes and Inland zones. Almost 9 of every 10 yards with fewer than 500 wage earners in the Atlantic, Pacific, and Gulf yards reported absenteeism rates of less than 8 percent in October, as was the case in the other 2 zones.

These differences between large and small yards in the same areas lend some weight to two of the explanations frequently given for the current high absenteeism—inadequate housing and transportation. Although these two factors constitute problems in all localities where shipbuilding employment has expanded rapidly, it is probably true that the problems of overcrowding and poor transportation increase disproportionately with the expansion of large yards as compared with expansion of smaller ones. It is also probable that in the smaller yards closer contacts can be maintained between management and workers, as well as between individual workers, than is possible in yards with 20,000 or 30,000 workers.

## *Causes of Absenteeism*

Fourteen of the 20 yards from which the Bureau obtained information through its special survey of the causes of absenteeism furnished daily records of the amount of absenteeism for 2 weeks during July (see table 5), but the remaining information obtained through this survey consisted of opinions of company officials.

In most cases a general tendency was observed for absenteeism to rise over the week end. Absences on Saturday and Monday accounted for about 40 percent of the man-hours lost throughout the week. Several explanations of this attendance pattern were offered. Friday is pay day in many yards. Many workers whose homes were quite distant visited their families over the week end and frequently did not return until Tuesday. Others took Monday off to rest up from week-end activities. In yards scheduling Sunday work regularly, absenteeism was usually greatest on Sunday.[3]

TABLE 5.—*Daily Record of Absenteeism in 14 Selected Shipyards, July 6–July 18, 1942*

| Period | July 6–July 11 | | July 13–July 18 | |
|---|---|---|---|---|
| | Man-days lost as percent of man-days worked plus man-days lost | Percent of total man-days lost each day | Man-days lost as percent of man-days worked plus man-days lost | Percent of total man-days lost each day |
| Monday through Saturday | 8.3 | 100.0 | 8.2 | 100.0 |
| Monday | 10.2 | 20.2 | 9.8 | 19.6 |
| Tuesday | 8.3 | 16.6 | 8.1 | 16.4 |
| Wednesday | 7.7 | 15.5 | 7.7 | 15.7 |
| Thursday | 7.0 | 14.1 | 7.1 | 14.5 |
| Friday | 7.2 | 14.7 | 7.3 | 14.8 |
| Saturday | 9.4 | 18.9 | 9.4 | 19.0 |

The other reasons offered by company officials for the high absenteeism in their yards are summarized in table 6. Most of them felt that absenteeism resulted from a combination of factors. In specific areas inadequate housing and transportation facilities were decidedly the most important causes of absenteeism. High on the list of other reasons was the large number of workers quitting without notice, which was associated with the increasing number of inexperienced workers being hired.

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[3] In one yard with 14.5 percent absenteeism, almost a third of the absenteeism occurs on Sunday, which is the seventh day of work in this yard. All workers in some departments are offered an opportunity to report for work on Sunday, although it is understood that many of them will not report. Those who do not report in these departments are counted as absent.

TABLE 6.—*Causes of Absenteeism in Selected Commercial Shipyards*

| Zone and yard | Week-end absences | Quits without notice | Housing | Transportation | High earnings | Long hours | Sickness and accidents | Other work (farms, etc.) | Climate or weather | Inexperienced labor | Unexplained or miscellaneous |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlantic Coast: | | | | | | | | | | | |
| I-A | X | | | | X | | | | | | |
| I-B | X | | | | | | X | | | | X |
| I-C | X | X | X | | | | | | X | | |
| I-D | X | X | | | X | | | | | | |
| I-E | X | X | | | X | | | | | | |
| I-F | X | X | | | X | | | | | X | |
| I-G | X | X | X | | | | | | | | |
| I-H | X | | X | X | | | | X | X | | |
| I-J | | | | | | | | | | | X |
| Gulf Coast: | | | | | | | | | | | |
| II-A | X | X | X | X | | X | | | X | | |
| II-B | X | | X | X | | X | | | | | |
| II-C | X | X | | | X | | | | X | X | |
| II-D | X | | X | X | | | | | | | |
| Pacific Coast: | | | | | | | | | | | |
| III-A | X | | X | | | | | | | | |
| III-B | X | | X | | | | X | | | | X |
| III-C | X | | | | | | | | | | |
| III-D | X | | X | | | | X | | | | X |
| III-E | X | X | X | | | | | | | | |
| III-F | X | | X | | | | X | | | | |
| Great Lakes: IV-A | | | | | | | | | | | X |

### HOUSING AND TRANSPORTATION

Lack of housing accommodations was undoubtedly the principal cause of absenteeism in many yards, particularly in the Gulf and Pacific areas. The tendency of workers to take time off for week-end visits to their families has already been mentioned. In some areas workers bringing their families with them were forced to live in trailer or tent camps without adequate facilities for water supply and sewage disposal, and being accustomed to and able to pay for decent housing, took time off to look for better accommodations or, in extreme cases, quit their jobs because housing conditions were intolerable.

Shortage of housing facilities has caused many workers to commute as much as 50 to 150 miles (round trip) daily. Rationing of tires and gasoline have resulted in workers' forming car pools, and a blow-out or engine trouble may keep 5 or 6 workers away from work. As previously stated, absenteeism in this report does not include fraction-of-day absences. If time lost because of tardiness were included, transportation would be a still more important factor, because automobile trouble and congested traffic make many workers tardy. Some workers traveling long distances prefer to work fewer days and make less money than to make the long trip to and from work every day.

Although both publicly and privately financed war housing has been built in shipbuilding centers, in many areas the supply of housing has failed to keep pace with the increase in employment. Since the natural requirements for launching large vessels limit the number of possible locations for certain types of yards, many of the proposals for placing war industries where labor and housing are already available are not applicable to the shipbuilding industry. Moreover, shortages of critical materials preclude any large-scale building of new ways.

## QUITS WITHOUT NOTICE AND INEXPERIENCED WORKERS

A large percentage of absenteeism resulted from carrying on the pay roll persons who had quit work without giving notice to the company. Such workers are counted as absentees for varying periods (in some yards for as long as a month) until their names are removed from the pay roll. Detailed records of one shipyard, employing more than 2,500 workers and reporting an absenteeism rate of 9 percent, illustrate the effect of unreported quits in absenteeism rates. Approximately one-fifth of this company's absenteeism was caused by keeping on the pay roll persons who were probable terminations.

Bureau of Labor Statistics' reports on labor turn-over in the shipbuilding industry show that quits rose from 4.29 per 100 workers in April 1942 to 5.39 per 100 workers in October. This was in addition to discharges, military separations, and lay-offs. Shipbuilding officials attribute a large share of the quits to the necessity of hiring inexperienced workers who are recruited from a wide variety of occupations. Many workers after a few days find they cannot do the work or cannot stand the grind, take time off to look for another job, and do not return. One large shipbuilding company on the Atlantic Coast submitted reports showing that of over 500 workers who had quit in the first half of November, almost half had been employed no longer than a month. Nearly seven-eighths of those quitting had been employed by this company 6 months or less.

Many workers after being trained believe they can obtain better wages elsewhere, take time off to seek other employment, and then leave permanently. In some localities shipyards were hiring each other's workers. A survey of workers hired by representative shipyards on the west coast during June 1942 showed that 14 percent of the new persons hired had come from other shipyards. However, about a third of the workers reported as recruited from other shipyards were, in reality, employees shifted between two yards operated by the same company, and were doubtless transferred by an arrangement of the management.[4]

## HIGH EARNINGS AND LONG HOURS

Officials of 4 companies attributed absenteeism to high earnings in combination with other causes, and an official of a fifth company mentioned high earnings alone. Frequently workers who were separated from their families preferred a visit home to more money. However, many of these workers probably would not have taken jobs away from home in the first place had it not been for the inducement of high wages and the prospects which they afforded of visits to the families. Company officials also felt that some workers were interested merely in making a living and would work only until they made enough to satisfy their wants. During the first World War "wage income higher than the standard of living" was also advanced as a cause of absenteeism in certain sections of the shipbuilding industry.[5]

Comparison of average weekly earnings and absenteeism rates for the 20 companies does not show any consistent relation between changes in earnings and changes in absenteeism. In fact, the absenteeism records of individual companies show chiefly that absenteeism rates change so erratically from month to month that in all yards the explanation must lie in a variety of factors. In one Atlantic Coast yard absenteeism rose from 2 percent in April to over 9 percent in August and declined slightly in the following 2 months. In another Atlantic Coast yard absenteeism dropped from 11.3 percent in April to 8.0 in June, but rose to 14.4 in October. In a Pacific yard where employment was more than doubled from April to October, but where average weekly hours and average weekly earnings were about the same in both months, absenteeism rose from 0.8 percent in April to 10.0 percent in October. In other yards absenteeism remained between 3 and 7 percent throughout the 7-month period. On the other hand, in a large yard on the Atlantic Coast absenteeism was consistently high, but whereas employment increased 50 percent, absenteeism was reduced from 16.0 percent in April to 11.9 percent in October. This yard also reduced average weekly hours from 54.5 to 49.9 per week over the 7 months.

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[4] Monthly Labor Review, November 1942 (p. 926): Sources of Labor Supply in West Coast Shipyards and Aircraft Parts Plants.

[5] Political Science Quarterly, December 1919 (p. 603): Absenteeism in Labor, by Paul H. Douglas.

The two Gulf yards which mentioned long hours, along with other causes, as the explanation for high absenteeism reported average weekly hours of 52.8 and 53.6 in July, when the average for all shipyard workers was 48.3. Scheduled workweeks in these yards were 54 and 58 hours, respectively.

TABLE 7.—*Employment, Hours, Earnings, Absenteeism, and Quit Rates in Selected Commercial Shipyards, April–October 1942*

| Zone, shipyard, number of wage earners,[1] and month | Employment index (April=100) | Average weekly hours | Average weekly earnings | Percent of absenteeism | Quit rate (per 100 wage earners) |
|---|---|---|---|---|---|
| *Atlantic Coast* | | | | | |
| Shipyard I–A (20,000–25,000 wage earners): | | | | | |
| April | 100.0 | 47.1 | $49.19 | 5.3 | 3.03 |
| May | 101.4 | 47.2 | 49.24 | 5.4 | 2.39 |
| June | 102.6 | 47.6 | 50.08 | 4.3 | 2.45 |
| July | 103.0 | 47.9 | 55.03 | 6.1 | 2.26 |
| August | 100.5 | 47.7 | 55.85 | 6.9 | 3.72 |
| September | 103.6 | 47.7 | 58.77 | 6.8 | 5.93 |
| October | 108.6 | 48.2 | 55.28 | 4.5 | 3.95 |
| Shipyard I–B (under 5,000 wage earners): | | | | | |
| April | 100.0 | 54.3 | 53.39 | 5.7 | 5.54 |
| May | 117.4 | 56.4 | 58.92 | 8.8 | 6.99 |
| June | 139.4 | 55.8 | 51.36 | 10.4 | 6.02 |
| July | 146.5 | 52.3 | 51.45 | 10.5 | 6.77 |
| August | 164.8 | 56.3 | 59.63 | 10.4 | 6.47 |
| September | 197.6 | 55.2 | 60.05 | 9.3 | 5.73 |
| October | 234.8 | 55.9 | 58.39 | 10.6 | 5.20 |
| Shipyard I–C (25,000–30,000 wage earners): | | | | | |
| April | 100.0 | 46.5 | 43.90 | 10.2 | 3.37 |
| May | 104.3 | 48.0 | 45.29 | (2) | 4.17 |
| June | 108.4 | 49.6 | 47.91 | 8.2 | 4.68 |
| July | 112.3 | 51.2 | 50.18 | 9.7 | 3.23 |
| August | 116.1 | 50.2 | 53.36 | 10.6 | 6.67 |
| September | 116.8 | 51.1 | 58.10 | 9.6 | 6.25 |
| October | 114.2 | 48.2 | 53.74 | 10.7 | 4.59 |
| Shipyard I–D (30,000–35,000 wage earners): | | | | | |
| April | 100.0 | 54.5 | 57.88 | 16.0 | 5.69 |
| May | 113.3 | 52.7 | 55.84 | 15.0 | 8.82 |
| June | 125.2 | 53.4 | 57.23 | 14.6 | 11.93 |
| July | 139.7 | 48.0 | 58.04 | 13.0 | 5.68 |
| August | 153.7 | 47.2 | (2) | 13.2 | 8.19 |
| September | 156.7 | 49.7 | 63.85 | 13.9 | 9.07 |
| October | 146.8 | 49.9 | 61.39 | 11.9 | 6.55 |
| Shipyard I–E (under 5,000 wage earners): | | | | | |
| April | 100.0 | 46.0 | 49.40 | 7.6 | 2.22 |
| May | 117.2 | 42.7 | 44.97 | 8.1 | 2.35 |
| June | 125.6 | 44.7 | 46.65 | 8.5 | 2.32 |
| July | 124.1 | 45.7 | 52.82 | 9.3 | 2.10 |
| August | 133.4 | 43.7 | 50.97 | 6.5 | (2) |
| September | 133.0 | 46.3 | 56.72 | 7.7 | 5.85 |
| October | 148.6 | 48.8 | 59.66 | 7.4 | 6.79 |

See footnotes at end of table.

**Table 7.**—*Employment, Hours, Earnings, Absenteeism, and Quit Rates in Selected Commercial Shipyards, April–October 1942*—Continued

| Zone, shipyard, number of wage earners,[1] and month | Employment index (April=100) | Average weekly hours | Average weekly earnings | Percent of absenteeism | Quit rate (per 100 wage earners) |
|---|---|---|---|---|---|
| *Atlantic Coast*—Continued | | | | | |
| Shipyard I-F (10,000-15,000 wage earners): | | | | | |
| April | 100.0 | 48.8 | $52.81 | 6.9 | 1.89 |
| May | 116.2 | 50.6 | 53.18 | 9.3 | 2.39 |
| June | 137.9 | 49.2 | 54.69 | 6.5 | 2.39 |
| July | 152.8 | 52.5 | 64.95 | 7.4 | 1.73 |
| August | 175.9 | 50.4 | 61.36 | 8.1 | 2.34 |
| September | 183.3 | 48.3 | 59.95 | 9.2 | 2.50 |
| October | 192.8 | 53.8 | 64.75 | 6.7 | 2.23 |
| Shipyard I-G (25,000-30,000 wage earners): | | | | | |
| April | 100.0 | 49.9 | $58.92 | 2.0 | 1.86 |
| May | 108.2 | 48.9 | 57.97 | 4.1 | (2) |
| June | 122.3 | 49.3 | 57.38 | 4.5 | 2.50 |
| July | 132.5 | 49.6 | 62.97 | 7.1 | 1.55 |
| August | 138.8 | 47.3 | 57.55 | 9.4 | 2.67 |
| September | 143.3 | 48.7 | 64.50 | 7.7 | 3.56 |
| October | 154.1 | 45.2 | 55.87 | 8.5 | 2.92 |
| Shipyard I-H (15,000-20,000 wage earners): | | | | | |
| April | 100.0 | 48.0 | 39.86 | 11.3 | 2.92 |
| May | 107.1 | 50.8 | 43.73 | 9.8 | 2.81 |
| June | 120.4 | 51.7 | 45.01 | 8.0 | 3.23 |
| July | 137.5 | 49.8 | (3) | 8.8 | (2) |
| August | 150.2 | 46.6 | 46.49 | 10.1 | 3.71 |
| September | 156.4 | 49.0 | 52.80 | 8.8 | 4.95 |
| October | 174.6 | 45.4 | 45.45 | 14.4 | 3.89 |
| Shipyard I-J (25,000-30,000 wage earners): | | | | | |
| April | 100.0 | 47.7 | 56.62 | 5.4 | 1.40 |
| May | 110.2 | 49.8 | 60.35 | 4.2 | 1.04 |
| June | 116.6 | 48.6 | 60.60 | 5.2 | 1.10 |
| July | 125.1 | 50.0 | 66.41 | 8.0 | 1.10 |
| August | 141.7 | 48.8 | 64.47 | 7.8 | 1.45 |
| September | 152.7 | 49.5 | 66.87 | 5.6 | (2) |
| October | 155.5 | 46.5 | 60.58 | 5.7 | (2) |
| *Gulf Coast* | | | | | |
| Shipyard II-A (5,000-10,000 wage earners): | | | | | |
| April | 100.0 | 49.2 | 43.70 | 8.8 | 6.14 |
| May | 114.2 | 50.6 | 44.14 | 6.4 | .72 |
| June | 135.2 | 51.8 | 44.89 | 6.1 | 3.72 |
| July | 144.7 | 52.8 | 47.61 | 8.3 | 6.15 |
| August | 170.1 | 52.7 | 52.41 | 7.8 | 8.74 |
| September | 178.9 | 49.9 | 49.91 | 10.4 | 9.58 |
| October | 186.9 | 48.2 | 47.89 | 13.0 | (2) |
| Shipyard II-B (10,000-15,000 wage earners): | | | | | |
| April | 100.0 | 53.5 | 51.21 | 6.8 | 8.54 |
| May | 107.5 | 51.4 | 47.17 | 10.4 | 14.22 |
| June | 112.7 | 51.8 | 51.59 | 9.8 | 10.65 |
| July | 109.8 | 53.6 | 53.53 | 6.8 | 11.93 |
| August | 117.8 | 57.5 | 58.79 | 4.7 | 20.98 |
| September | 117.7 | 44.7 | 49.34 | 5.8 | 25.05 |
| October | 127.1 | 45.1 | 44.36 | 8.2 | 24.04 |
| Shipyard II-C (10,000-15,000 wage earners): | | | | | |
| April | 100.0 | 47.9 | 48.07 | 3.9 | 7.58 |
| May | 123.0 | 45.2 | 47.30 | 4.9 | 3.59 |
| June | 161.2 | 44.6 | 46.27 | 5.8 | 7.25 |
| July | 166.2 | 45.4 | 47.89 | 6.6 | 5.04 |
| August | 201.9 | 41.6 | 50.57 | 3.9 | 5.22 |
| September | 179.2 | 50.0 | 58.97 | 4.5 | 4.74 |
| October | 187.1 | 49.9 | 63.76 | 4.9 | 3.86 |
| Shipyard 11-D (10,000-15,000 wage earners): | | | | | |
| April | 100.0 | 56.1 | $58.35 | 7.7 | 1.62 |
| May | 123.9 | 58.4 | 61.00 | 7.1 | 1.83 |
| June | 141.4 | 53.3 | 56.08 | 10.0 | 1.30 |
| July | 160.4 | 56.1 | 58.77 | 7.0 | 1.80 |
| August | 177.5 | 56.9 | 66.12 | 6.4 | 1.45 |
| September | 187.1 | 57.0 | 70.42 | 5.5 | 1.81 |
| October | 197.0 | 57.3 | 67.53 | 7.3 | 1.65 |
| *Pacific Coast* | | | | | |
| Shipyard III-A (20,000-25,000 wage earners): | | | | | |
| April | 100.0 | 43.0 | 51.56 | 10.0 | (2) |
| May | 118.0 | 42.8 | 52.03 | 6.8 | 11.97 |
| June | 132.8 | 42.4 | 51.90 | 10.0 | 12.42 |
| July | 147.2 | 41.6 | 50.44 | 8.6 | 12.67 |
| August | 161.6 | 40.0 | 46.00 | 8.7 | 12.14 |
| September | 165.0 | 41.8 | (3) | 8.3 | 13.08 |
| October | 162.7 | 41.8 | 56.67 | 12.0 | 9.19 |

See footnotes at end of table.

TABLE 7.—*Employment, Hours, Earnings, Absenteeism, and Quit Rates in Selected Commercial Shipyards, April–October 1942*—Continued

| Zone, shipyard, number of wage earners,[1] and month | Employment index (April=100) | Average weekly hours | Average weekly earnings | Percent of absenteeism | Quit rate (per 100 wage earners) |
|---|---|---|---|---|---|
| *Pacific Coast*—Continued | | | | | |
| Shipyard III-B (25,000-30,000 wage earners): | | | | | |
| April | 100.0 | 42.6 | $50.16 | 6.2 | (2) |
| May | 126.0 | 43.0 | 50.79 | 7.7 | 8.93 |
| June | 134.3 | 42.7 | 51.66 | 10.7 | 10.65 |
| July | 164.6 | 42.4 | 51.46 | 11.7 | 9.31 |
| August | 193.9 | 43.5 | 57.00 | 11.7 | 10.19 |
| September | 204.4 | 43.6 | 60.77 | 8.9 | (2) |
| October | 212.6 | 43.6 | 56.82 | 11.2 | 6.26 |
| Shipyard III-C (10,000-15,000 wage earners): | | | | | |
| April | 100.0 | 41.8 | 51.18 | 8.2 | 13.39 |
| May | 114.2 | 43.1 | 51.63 | 6.9 | 11.42 |
| June | 127.5 | 47.4 | 55.45 | 6.1 | 7.94 |
| July | 136.6 | 44.9 | 55.10 | 7.3 | 6.94 |
| August | 148.6 | 45.0 | 60.06 | 5.6 | 6.20 |
| September | 157.0 | 44.6 | 63.73 | 5.3 | 6.97 |
| October | 154.0 | 44.9 | 60.52 | (2) | 4.92 |
| Shipyard III-D (15,000-20,000 wage earners): | | | | | |
| April | 100.0 | 46.2 | 60.16 | (2) | (2) |
| May | 91.2 | 39.7 | 48.53 | 5.3 | (2) |
| June | 201.7 | 40.7 | 51.27 | 10.4 | (2) |
| July | 358.8 | 42.2 | 49.92 | 6.2 | (2) |
| August | 450.0 | 42.6 | 57.75 | 5.9 | (2) |
| September | 578.7 | (3) | 59.85 | (3) | (2) |
| October | 733.8 | 42.2 | 58.20 | (3) | (2) |
| Shipyard III-E (10,000-15,000 wage earners): | | | | | |
| April | (4) | (4) | (4) | (4) | (4) |
| May | 100.0 | 25.0 | 39.74 | 6.8 | (2) |
| June | 378.5 | 33.4 | 40.77 | 9.6 | (2) |
| July | 1,206.7 | 36.1 | 43.97 | 7.8 | (2) |
| August | 2,274.5 | 37.9 | 49.04 | 10.1 | (2) |
| September | 2,867.2 | 38.6 | 57.85 | 9.1 | (2) |
| October | 3,221.2 | 40.1 | 52.83 | 12.2 | (2) |
| Shipyard III-F (25,000-30,000 wage earners): | | | | | |
| April | 100.0 | 41.7 | $55.50 | .8 | (2) |
| May | 112.1 | 47.8 | 56.65 | .7 | (2) |
| June | 138.9 | 45.7 | 55.25 | 5.0 | (2) |
| July | 159.6 | 43.2 | 54.16 | 7.0 | (2) |
| August | 184.3 | 40.1 | 55.00 | 8.3 | (2) |
| September | 196.7 | 43.1 | 51.37 | 9.3 | (2) |
| October | 204.5 | 41.9 | 54.51 | 10.0 | (2) |
| *Great Lakes* | | | | | |
| Shipyard IV-A (under 500 wage earners): | | | | | |
| April | 100.0 | 42.7 | 42.86 | 12.7 | (2) |
| May | 138.2 | 53.2 | 55.09 | 6.2 | (2) |
| June | 132.7 | 55.1 | (2) | 4.3 | (2) |
| July | 154.8 | 52.8 | 57.40 | 7.3 | (2) |
| August | 178.8 | 54.5 | 59.84 | 4.0 | (2) |
| September | 196.3 | 57.5 | 72.79 | 6.9 | (2) |
| October | 215.7 | 53.9 | 62.40 | 7.3 | (2) |

[1] Wage earners in October 1942.
[2] Not reported.
[3] Data questionable.
[4] Yard not in operation.

## SICKNESS AND ACCIDENTS

None of the shipbuilding companies questioned reported sickness and accidents as a major cause of absenteeism. One company reporting an absenteeism rate of 11.8 submitted a detailed analysis of this time lost, which showed that industrial injuries accounted for 1.8 percent and reported sickness 0.3 percent of the total.

### WEATHER AND CLIMATE

Weather is probably a more important factor of absenteeism in shipbuilding than in any other industry with the possible exception of the construction industry. Much shipbuilding work is in the open and is affected by heavy rains and severe heat or cold. It is very common for shipyards to report on their monthly schedules that high absenteeism was caused by heavy rain, and this may account for some of the apparently erratic fluctuations in absenteeism rates for individual companies. Since the available 1942 data cover only the months from April through October, it is too early to tell whether the increase in absenteeism which occurred during the winter of 1918 will be duplicated in 1942 and 1943.

### OTHER CAUSES

All of the reasons offered by shipyard officials for the current high absenteeism rates had been observed by Prof. Paul H. Douglas in a general article on absenteeism, written shortly after the close of World War I.[6] In addition, his list of causes included: Employment of women; nature of employment, e. g., heat, dust, excessive noise, monotony; payment of overtime bonus; lack of materials; liquor; and separation of interests between workman and employer.

Although woman workers in shipyards increased appreciably in number during the summer of 1942, they represented no more than 2 percent of the workers in commercial shipyards in October.[7] The increasing employment of women may result in higher absenteeism, but women were not numerous enough in the fall of 1942 to have much effect on the rates.

Absenteeism attributable to the nature of the work was doubtless implied when shipyard officials called attention to the large number of quits, particularly among new workers. The effect of liquor was probably also associated by company officials with week-end absences. Separation of interests of workman and employer may have some bearing on the fact that absenteeism seemed to be more of a problem in large than in small yards in 1942.

The payment of overtime bonuses was regarded as such an important factor in absenteeism in the spring and summer of 1942 that an agreement abolishing calendar premium days, which will be discussed later, was made effective in all zones by August 1, 1942.

The extent to which worker morale is lowered and absenteeism is thereby increased because of faulty planning of work and lack of materials and equipment cannot be measured. Rapid expansion of yards and difficulties in getting materials have unquestionably complicated the orderly planning of work and the most effective use of workmen in many yards.

## *Methods of Reducing Absenteeism*

Although the majority of shipyard officials questioned stated that they had taken steps to eliminate as much absenteeism as possible, many reported that they had been unable to reduce it to any appreciable extent. The Navy Department, U. S. Maritime Commission, War Production Board, and other Federal agencies have also attempted to assist labor and management in minimizing this loss of working time.

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[6] Political Science Quarterly, December, 1919 (pp. 600–604): Absenteeism in Labor, by Paul H. Douglas.

[7] For data on employment of women in shipyards, see Monthly Labor Review, February 1943, p. 277.

*Abolition of calendar premium days.*—One step to reduce absenteeism was the abolition of calendar premium days as the result of the Shipbuilding Stabilization Committee agreement which was effective in all zones by August 1, 1942. Shipbuilding companies were of the opinion that employees were working on Saturday and Sunday in order to receive premium pay and were then taking time off during the week. The agreement provided that Saturdays and Sundays would be considered as regular workdays and that work performed on these days would be paid for at straight-time rates except when Saturday and Sunday were the sixth or seventh regular shift of the established workweek. Time and a half would be paid for the sixth regular shift and double time for the seventh regular shift worked in an employee's regularly established workweek.

*Personal appeals to workers.*—Most yards considered that appeals made to the workers through foremen, through posters supplied by the War Production Board, Navy, and Maritime Commission, and through labor management committees were the most effective methods of reducing absenteeism.

One Pacific Coast shipyard planned to maintain large bulletin boards showing the relative percentage of absentees by crafts, shifts, and divisions, with the hope that these boards would stimulate competition and thus reduce absenteeism.

A popular method of appealing to the workers was to have speakers in the yards, who pointed out to the workers the value of every day's work and the importance of their jobs in the war.

One of the most direct appeals was reported by a Pacific Coast yard which printed an "Open Letter to Joe Lay-off" in the plant magazine. This letter set forth the number of workers who were absent on 1 day, the losses in terms of production, the essential part that shipping plays in the war, and the importance of every worker to his job and his country.

*Assistance in housing and transportation problems.*—Two companies reported taking steps to alleviate transportation and housing difficulties. One of these companies arranged for shuttle train service between the city in which the yard was situated and a neighboring city where a large proportion of workers were forced to reside because of housing shortages. The second company established a division responsible for trying to eliminate the causes of absenteeism, which assisted employees in obtaining houses.

*Decrease in hours of work.*—Although two yards reported that long hours undoubtedly were a principal cause of absenteeism, only one of them reduced hours—from a scheduled workweek of 58 to 48 hours. Another yard reported that by allowing employees to work only 6 shifts a week, absenteeism had been reduced 50 percent.

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From Mrs Kottert

The Conference Board - MANAGEMENT RECORD

February 1943

(From an article by King MacRury, Management Research Division)

According to data shown in Table 2, long hours of work affect the absence rate of women in greater degree than in the case of men, despite the shorter weekly work schedules. In this table as the number of absences per thousand does not vary in relation to hours worked, the number of days lost per absence also may be used as an indicator.

Frequency and duration of absence among 61,641 male and 18,597 female employees, November, 1942

| | Short-Term Absences | | | Long-Term Absences | | | All Absences | | |
|---|---|---|---|---|---|---|---|---|---|
| | Ill | Accident | Other | Ill | Accident | Other | Ill | Accident | Other |
| Absences per 1000 employees | | | | | | | | | |
| Men | 78 | ... | 98 | 23 | ... | 7 | 101 | 1 | 105 |
| Women | 199 | 1 | 232 | 33 | 1 | 38 | 232 | 2 | 270 |
| Days lost per absence | | | | | | | | | |
| Men | 1.8 | 1.4 | 1.5 | 10.6 | 11.7 | 6.2 | 3.8 | 7.7 | 1.9 |
| Women | 1.2 | 1.3 | 1.3 | 9.6 | 15.8 | 6.7 | 2.4 | 8.2 | 2.1 |

Most companies have found many employees have perfect records of attendance. This means that a company's time loss through absenteeism is caused by the absence of a comparatively small number of employees who are called "repeaters." Under normal work schedules, the number of "repeaters" does not change appreciably. However, as the number of weekly work hours is increased and the severity rate of these "repeaters" increases, the hours affect more people causing them to be absent. If measurements were taken of the number of days lost per absence by the "repeaters" it would be found that the severity rate had increased in direct relation to the increases made in the weekly work hours. With additional employees being absent for short periods of time, however, the overall severity rate may remain constant or even decrease. This may explain the higher frequency rate of male employees working longer hours per week. On the other hand, as the women represented in this report work fewer hours per week, this effect has not yet appeared.

The reports of 12 companies employing 80,238 persons are analyzed in Table 3 to show the relative importance of illness, non-industrial accidents and absence for personal reasons. Illness accounted for 47.5 percent of the absences, non-industrial accidents for 0.6 percents, and 51.9 percent were due to personal reasons.

Frequency and Duration of Absence

| Male | September | October | November |
|---|---|---|---|
| Absences per 1,000 employees | 135 | 145 | 197 |
| Days lost per employee(per yr | 6.7 | 6.2 | 6.9 |
| Days lost per absence | 2.5 | 3.6 | 2.9 |
| **Female** | | | |
| Absences per 1000 employees | 146 | 267 | 411 |
| Days lost per employee(per yr) | 7.8 | 8.1 | 12.6 |
| Days lost per absence | 2.8 | 3.0 | 2.5 |

From a survey of 73,550 men and 12,295 women.

Women showed the greatest tendency to be absent for personal reasons; 53.6 percent of their absences were reported under this category, as compared with 50.7 percent for men. Illnesses were second in importance to personal reasons, accounting for 46.0 percent of women's and 48.6 percent of men's absences. Non-industrial accidents were almost negligible, amounting to only 0.4 percent and 0.7 percent of women's and men's absences resppctively.

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## SICKNESS ABSENTEEISM
## SUMMARY OF INFORMATION AVAILABLE

### Frequency of illness

According to Public Health Service Reports based on years of reporting by sick benefit associations of illnesses disabling for over 7 days, industrially employed women show an excessive number of illnesses per year as compared with industrially employed men. For the year 1941 the number of cases per 1,000 women was 163.3; for men 101.3.

For illnesses of short duration the excessive rate for women is even more marked. One company, for example found the annual rate of absences of 1 day or longer per 1,000 women, 1,561.2; per 1,000 men 894.9.

There is great variation in sick absentee rates between companies reporting to Public Health Service. In some the rate for women approaches or is slightly under the rate for men. A report on illnesses of 8 days or longer among Westinghouse Electric and Mfg. Co., Pittsburgh plant showed 101.7 cases per 1,000 women as compared to 96 cases per 1,000 men.

### Days lost per year from illness

Boston-Edison Co., reporting all lost time from illness of 1 day or longer found that women lost in 1941 an average of 9.5 days, men 8.1 days.

For illnesses under 8 days duration women at General Motors lost an average of 7 days, men 5½ days according to a report made in June 1942.

The Fisher Body Division of General Motors reported a total of 5,013 days lost by 412 female employees in 1940, while 3,219 males lost 9,751 days.

A sample study of salaried employees at Westinghouse, Pittsburgh plant, showed women losing 2.2 percent of their available time because of illnesses, men losing 1 percent of their available time.

### Length of disability

Women's illnesses tended to be shorter than men's. Reports from Boston Edison Co. show an average of 6 days lost per absence for women, 9 days for men. Women lost less time per absence from every class of disability except nonindustrial injuries.

Considered by duration of each absence, the Boston Edison Co. shows one-third of all women's absences lasted only 1 day while a little over one-fifth of men's absences were that short.

Report on salaried employees at Westinghouse showed little difference in duration of men's and women's absences. Women's absences were slightly longer - 3.9 days as compared to 3.5 days.

## Other evidence of comparative severity

A study of a community in Baltimore showed a somewhat higher proportion of disabled men receiving medical care than did disabled women.

## Types of illness

The respiratory diseases cause the greatest number of absences both for men and women. The sample study at Westinghouse showed over 85 percent of male sickness absences and over 75 percent of women's sickness absences caused by respiratory diseases.

Public Health Service reports of illnesses of 8 days or longer showed an excess frequency rate of men over women of diseases of the heart, rheumatism, both acute and chronic, and other diseases of organs of locomotion. The greatest excess of women's cases over men's is reported for respiratory diseases, digestive diseases, genito urinary diseases (other than nephritis) and neurasthenia

## ALL ABSENTEEISM

There is little factual information on absences due to causes other than illness. An unpublished report from Consolidated Aircraft's 2 plants in California for 4 months in 1942 shows higher absence rates for women but also shows that these rates are not increasing so rapidly for women as for men. In plant II in one week of the month of October, the male rate reached a higher level than the female rate.

A plant (not named) reporting to the National Industrial Conference Board lists all causes of absence in the year 1941 as follows: No breakdown is given by sex.

| | |
|---|---|
| Sickness | 7.83 |
| Transportation | .02 |
| Permission | 1.26 |
| Injured | .20 |
| No excuse | .11 |
| Sickness in family | .64 |
| Suspended | .03 |
| Vacation | 6.82 |
| Laid off | 5.13 |

Total days lost: all causes 22.04

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# SICKNESS ABSENTEEISM

## I - Frequency of Men's and Women's Illnesses Compared

(1) U. S. General 1941 (Public Health Service)
(From Public Health Reports, Sept. 4, 1942, p. 1345) 1/

Absences of Over 7 Days

| | Annual number of cases per 1,000 - | |
|---|---|---|
| | Males | Females |
| Sickness and nonindustrial injuries | 101.3 | 163.3 |
| Percent of female rate | 62 | - |
| Percent of male rate | - | 161 |
| Nonindustrial injuries | 12.0 | 13.9 |
| Sickness | 89.3 | 149.4 |
| Respiratory diseases | 40.8 | 63.1 |
| Nonrespiratory diseases | 45.6 | 81.8 |
| Digestive diseases | 15.4 | 26.9 |
| Nondigestive diseases | 30.2 | 54.9 |
| Diseases of the heart | 2.5 | 1.8 |
| Other circulatory diseases | 3.6 | 4.7 |
| Nephritis, acute and chronic | .4 | .5 |
| Other genitourinary diseases | 2.4 | 10.6 |
| Neuralgia, neuritis, sciatica | 2.0 | 2.5 |
| Neurasthena, and the like | 1.0 | 6.2 |
| Other diseases of the nervous system | 1.3 | 1.3 |
| Rheumatism, acute and chronic | 3.7 | 3.3 |
| Diseases of organs of locomotion except joints | 2.8 | 2.4 |
| Diseases of the skin | 2.7 | 3.9 |
| Infections and parasitic diseases | 2.5 | 4.1 |
| Cancer | .5 | .3 |
| All other diseases | 4.8 | 13.3 |
| Ill-defined and unknown causes | 2.9 | 4.5 |

1/ Illnesses of over 7 consecutive calendar days reported for 257,726 male person-years and 18,008 female person-years.

The year 1941 showed an excessive rate of illness for both men and women from appendicitis, for men an increase over previous years in bronchitis and pneumonia and for women an increase in diseases of the heart and other circulatory diseases and an increase in infections and parasitic diseases.

(2) Boston Edison Co. 1941 (Public Health Service Reports, Apr. 24, 1942, p. 627)

Absences of 1 day or longer

| | Annual number of absences per 1,000 - | |
|---|---|---|
| | Males | Females |
| All disabilities | 894.9 | 1,561.2 |
| Industrial injuries | 26.6 | 3.5 |
| Nonindustrial injuries | 34.8 | 61.2 |
| Respiratory diseases | 559.6 | 832.2 |
| Nonrespiratory diseases | 273.9 | 664.3 |

(3) New England Telephone & Telegraph Co., Sickness Disability, 1940
(Industrial Health and the War, Daniel L. Lynch, M. D.)

Cases per 1,000

| Men | | Women | |
|---|---|---|---|
| Age group | Cases | Age group | Cases |
| 20029 | 85 | Under 25 | 225 |
| 30-39 | 125 | 25-34 | 305 |
| 40-49 | 175 | 35-44 | 315 |
| 50-59 | 205 | 45-54 | 330 |
| 60 and over | 235 | 55 and over | 320 |

(rates approximate; taken from chart)

Age seems a more important direct factor in male illness than female.

* (4) Committee on Costs of Medical Care and U.S.P.H.S.
(Cases and Days of Illness Among Males and Females with Special Reference to Confinement in Bed, by Selwyn D. Collins, P.H. Reports, Jan. 12, 1940, pp. 47-93)

720 cases per 1,000 males
833 cases per 1,000 females (exclusive of female genital and puerpal conditions)

* (5) Baltimore study in Milbank Memorial Fund Quarterly, July, 1942, pp. 221-241.
(The Severity of Illness Among Males and Females, Sally Preas and Ruth Phillips. Year ending 1940) 1/

| | Ratio per 1,000 | | Ratio of prevalence for females to that for males |
|---|---|---|---|
| | Males (3,314) | Females (3,336) | |
| Total cases | 142.7 | 231.7 | 1.62 |
| Acute illness | 44.3 | 69.8 | 1.58 |
| Chronic illness | 98.4 | 161.9 | 1.65 |
| Major | 52.5 | 92.3 | 1.76 |
| Minor | 45.9 | 69.6 | 1.52 |
| Institutional | 0.4 | 0.3 | .75 |

1/ Number of persons for whom illness was reported.

* (6) Baltimore study (see 5)
(Incidence of illness during 12 months, 1939-40. 1/

| Causes of illness | Rate per 1,000 population: Male | Rate per 1,000 population: Female | Ratio of rate for females to rate for males |
|---|---|---|---|
| All causes | 1105.0 | 1593.9 | 1.44 |
| Nondisabling | 623.7 | 984.8 | 1.58 |
| Disabling but not confined to bed | 234.4 | 276.2 | 1.18 |
| Confined to bed | 247.0 | 332.9 | 1.35 |
| Respiratory illness | 669.7 | 915.2 | 1.37 |
| Nondisabling | 384.8 | 569.7 | 1.48 |
| Disabling but not confined to bed | 123.1 | 135.0 | 1.10 |
| Confined to bed | 1161.8 | 210.5 | 1.30 |
| All other illness | 435.3 | 678.7 | 1.56 |
| Nondisabling | 238.8 | 415.2 | 1.74 |
| Disabling but not confined to bed | 111.3 | 141.2 | 1.27 |
| Confined to bed | 85.1 | 122.4 | 1.44 |

1/ Rate at which attacks of illness occurred. 2713 years of life for males and 2770 years of life for females.

(7) General Motors Corp. The Substandard Worker, Physical Examination and Placement, by P. J. Ochsner, M. D., Medical Director, Fisher Body Division, in Industrial Medicine, June, 1942, p. 283-4.

Female employees had 20 percent more cases of non-occupational injuries and diseases than the male employees.

(8) Westinghouse Electric and Mfg. Co., Pittsburgh, Pa., 6 months, 1942, salaried workers (unpublished).

| Number of periods of absence | 371 Males | 334 Females |
|---|---|---|
| Total | 734 | 1440 |
| Colds | 238 | 389 |
| Influenza | 165 | 360 |
| Grippe | 145 | 209 |
| Sore throat | 29 | 36 |
| Sinus infection | 35 | 22 |
| Tonsillitis | 12 | 86 |
| Laryngitis | 17 | 7 |
| Appendectomy | - | 29 |
| Accidents (non | - | 58 |
| Other | 93 | 245 |

(9) Westinghouse Electric & Mfg. Co., Pittsburgh, Pa., 1941 (unpublished)
Factory employees.

## Illnesses of 8 Days or Longer

| Cause | Number of cases per 1,000 - Males | Number of cases per 1,000 - Females |
|---|---|---|
| Sickness and nonindustrial injuries | 96.0 | 101.7 |
| Nonindustrial injuries | 12.7 | 8.3 |
| Sickness | 83.3 | 93.4 |
| Respiratory diseases | 36.5 | 35.1 |
| Digestive diseases | 16.3 | 24.6 |
| Nonrespiratory-nondigestive | 28.4 | 32.4 |
| Ill-defined and unknown causes | 2.1 | 1.3 |

## II - Days lost per year - men and women compared

(1) U. S. Public Health Service - Disability among employees of Boston Edison Co., 1941. (U.S.P.H.S. Reports, Apr. 24, 1942, p. 627)

Annual Number of Days Lost per Employee from Disabilities of 1 Day or Longer

| | Males | Females |
|---|---|---|
| All disabilities | 8.074 | 9.503 |
| Industrial injuries | .694 | .019 |
| Nonindustrial injuries | .383 | 1.138 |
| Respiratory diseases | 3.280 | 4.082 |
| Nonrespiratory diseases | 3.717 | 4.264 |

(2) General Motors Corp., Study of Apr. 1942. Sickness Absenteeism, A. T. Court in Industrial Medicine, June 1942, p. 271 ff.

Short term absenteeism has been found substantially higher among women than men. Women lost an average of 7 days per person a year from illnesses under 8 days duration, while men lost an average of 5½ days per person from illnesses of such brief duration.

(3) General Motors Corp., Fisher Body Division, Lansing 1940 (see p. 6)

Number of Days Lost in 1940 from Disabilities Lasting at Least 7 Days

| | 3219 Males | 412 Females |
|---|---|---|
| Total days lost | 9751 | 5013 |
| Non-occupational injuries | 1389 | 221 |
| Respiratory diseases | 2326 | 926 |
| Digestive diseases | 2475 | 807 |
| Other diseases | 3495 | 2004 |
| Pregnancy | -- | 1055 |

(4) Westinghouse Electric and Manufacturing, 6 months, 1942. (Salaried employees) (unpublished)

Number of Days Lost from Disabilities of 1 Day or Longer

| | 371 Males | | 334 Females | |
|---|---|---|---|---|
| | Number | Ratio to available time in percent | Number | Ratio to available time in percent |
| Total Days lost | 2524 | 1.00 | 5620 | 2.23 |
| Colds | 472 | .19 | 1072 | .42 |
| Influenza | 640 | .25 | 1185 | .47 |
| Grippe | 465 | .18 | 619 | .24 |
| Sore Throat | 47 | .02 | 187 | .07 |
| Sinus Infections | 76 | .03 | 367 | .04 |
| Tonsillitis | 38 | .02 | 386 | .15 |
| Laryngitis | 26 | .01 | 22 | .01 |
| Appendectomy | - | - | 590 | .24 |
| Accidents | - | - | 396 | .17 |
| Other | 760 | .30 | 795 | .32 |

## III - Length of Disability

(1) Boston Edison Co. (see p. 4)
Absences of 1 day or longer

Average Number of Days Per Absence

| | Men | Women |
|---|---|---|
| All disabilities | 9.02 | 6.09 |
| Industrial injuries | 26.06 | 5.50 |
| Nonindustrial injuries | 11.01 | 18.60 |
| Respiratory diseases | 5.86 | 4.91 |
| Nonrespiratory diseases | 13.57 | 6.42 |

(2) Boston Edison Co. 1933-1937. Duration of Disability
(Public Health Service, U. S. Public Health Service Reports.)

| Duration | Male Absences | Female Absences |
|---|---|---|
| Total | 100.0% | 100.0% |
| 1 day | 22.7 | 32.6 |
| 2 | 16.9 | 21.1 |
| 3 | 14.2 | 12.6 |
| 4 | 9.6 | 7.8 |
| 5 | 7.5 | 4.8 |
| 6 | 6.3 | 3.8 |
| 7 | 5.8 | 4.5 |
| 8-372 | 17.0 | 12.8 |

(3) Westinghouse Electric and Mfg. Co., Pittsburgh. (unpublished)
Absences of 1 day or longer

Average Days of Duration of Absence

| | 371 Males | 334 Females |
|---|---|---|
| Total | 3.5 | 3.2 |
| Colds | 2.0 | 2.8 |
| Influenza | 3.9 | 3.3 |
| Grippe | 3.2 | 3.0 |
| Sore Throat | 1.6 | 5.2 |
| Sinus infection | 2.2 | 16.7 |
| Tonsillitis | 3.2 | 4.5 |
| Laryngitis | 1.5 | 3.1 |
| Appendectomy | - | 20.3 |
| Accidents | - | 6.8 |
| Other | 8.2 | 3.3 |

## I V - Other Evidences of Severity

*(1) Baltimore Survey (see p. 2)

There is an excess number of cases among females in both severe and minor illnesses. Table on p. 3 shows that the excess in rate for females for nondisabling illnesses was greatest - 58 percent greater than for males. However, the female rate for bed illnesses was 35 percent greater than the male rate.

*(2) Baltimore survey (see p. 2)

The percentage of illnesses receiving medical care among females was somewhat lower than that among males for each class of disability for all illnesses, with the exception of nondisabling, respiratory illnesses where the percentages were the same for both sexes.

Percent of Illnesses Receiving Medical Care by Sex

| | Male | Female |
|---|---|---|
| All causes | 38.5 | 32.0 |
| Nondisabling | 22.3 | 18.7 |
| Disabling - not confined to bed | 48.1 | 39.7 |
| Confined to bed | 70.3 | 65.0 |

## V - Type of Illness (see also P.H.S. reports, p. 1, and others under frequency, days' lost, and so forth.)

(1) New England Telephone and Telegraph Co. (see p. 2)

Frequency of medical diagnosis in illness of more than 7 days' duration. 1936-40.

| | Distribution by types of disability 1/ | | Distribution by time lost by type 2/ | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| Upper respiratory | 37.4 | 45.1 | 16.6 | 27.4 |
| Gastro-intestinal | 9.1 | 4.2 | 9.1 | 4.5 |
| Off duty accidents | 7.9 | 10.9 | 7.1 | 10.9 |
| Arthritis | 7.0 | 3.4 | 8.7 | 6.1 |
| Skin | 4.0 | 4.5 | 2.8 | 3.4 |
| Appendicitis | 3.3 | 3.9 | 3.3 | 5.0 |
| Veins and arteries | 2.4 | - | 3.7 | - |
| Pneumonia | 2.3 | - | 2.6 | - |
| Mental and nervous | 2.3 | 3.7 | 5.2 | 7.9 |
| Heart | 2.2 | - | 5.6 | - |
| Liver and gall bladder | 2.1 | 1.4 | - | - |
| Hernia | 1.9 | - | 2.6 | - |
| Cancer | 1.3 | - | 4.1 | - |
| Hypertension | 1.4 | - | 3.0 | - |
| Miscellaneous | 15.4 | 17.0 | 25.6 | 28.5 |
| Genito-urinary | - | 4.4 | - | 6.3 |
| Anemia | - | 1.5 | - | - |

1/Based on 4334 cases of illness of men, 11,615 cases of illness of women.

2/Based on 173,380 days lost because of illness of men, 300,092 days lost because of illness of women.

## VI - Day on Which Absence Started and Day of Return to Work

(1) New England Telephone and Telegraph Co. & Consolidated Edison (see p. 2) 1936-40

1. Illnesses began on Monday in a very large proportion of cases throughout the 5 years.
2. Nearly 70 percent of men returned to work on Monday; nearly 60 percent of women returned on Monday.

## ALL ABSENTEEISM

(1) Consolidated Aircraft Corp. Absenteeism of Hourly Employees, July 1942 to October 16, 1942. (unpublished)

Percent Absent Daily

| | Plant I | | Plant II | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| July | 4.1 - 4.5 | 5.9 - 7.0 | 4.3 - 5.2 | 6.2 - 8.2 |
| August | 4.4 - 5.0 | 7.2 - 8.0 | 4.6 - 5.6 | 7.7 - 9.3 |
| September | 4.0 - 5.5 | 5.7 - 8.4 | 4.6 - 7.6 | 6.6 - 11.7 |
| October | 6.5 - 6.7 | 7.2 - 7.9 | 8.5 - 9.7 | 8.8 - 8.9 |

(2) Curtiss-Wright, St. Louis, Missouri (Christian Sci. Mon., August 4, 1942)

Absences of women are no greater than among men, less than 3 percent.

(3) One company not reporting sex of employees (N.I.C.B., Report No. 46, Reducing Absenteeism, p. 17)

Days Lost by Cause per Employee

| Cause | 1940 | 1941 |
|---|---|---|
| Total | 24.81 | 22.04 |
| Sickness | 9.44 | 7.83 |
| Transportation | .04 | .02 |
| Permission | 1.22 | 1.26 |
| Suspended | .06 | .03 |
| Vacation | 6.72 | 6.82 |
| Laid off | 6.42 | 5.13 |
| Injured | .18 | .20 |
| No excuse | .13 | .11 |
| Sickness in family | .59 | .64 |

* Non-industrial group

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## Companies Whose Absenteeism Reports Are Summarized Here or Whose Records Are Described in National Industrial Conference Board Report No. 46 - Reducing Absenteeism

1. Curtiss-Wright, St. Louis, Mo. (Statement made that absenteeism under 3 percent; no higher for women than men.)

2. Remington Arms Company (N. I. C. B.

3. The Koppers Co. (N. I. C. B.)

4. The Owens-Illinois Glass Company (N. I. C. B.)

5. Consolidated Edison Co. of New York (N. I. C. B.)

6. American Pulley Company (N. I. C. B.)

7. Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa. (visited by Mettert and Ziegler)

8. General Electric, Erie, Pa. plant (System of visitors for daily checking of absentees) Letter written to Miss Lucy Norton, Personnel Director for Women.

9. General Motors Corp., Fisher Body Division

10. New England Telephone and Telegraph Co.

11. Kollsman Division Square D Company - Louisville, Ky. (average absenteeism under 1 percent)

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Washington

# ABSENTEEISM REPORTS - UNITED STATES

## I - ILLNESS

(1) U. S. Public H. S. Reports, Apr. 24, 1942 - Employees of Boston Edison 1938-41 (one day or longer)

(2) U. S. Public H. S. Reports, Sept. 4, 1942.- Disabling Morbidity Among Male and Female Industrial Workers During 1941. p. 1344-1347 (latest in series)

(3) National Institute of Health and Milbank Memorial Fund in Milbank Memorial Fund Quarterly, July 1942 - Severity of Illness Among Males and Females (Balti.)

(4) National Health Survey, 1935-36 - Men and Women Disabled on Day of Canvass (15-64 years)

(5) N. I. H. P. H. S. Reports, Jan. 6, 1939, Nonindustrial Injuries Among Male and Female Industrial Employees. Data through 1937)

(6) New England Journal of Medicine - Industrial Health and the War, by Daniel L. Lynch, M.D. (1940) Types of Illness Compared Men and Women and Medical Prevention.

(7) Wastinghouse group (unpublished) Men and Women, 6 months of Illnesses, 1942, Salaried employees.

(8) Industiral Hygience Foundation (then Air Hygience Foundation) Sick Absenteeism in Industry, Its Extent, Its Causes and Control.

(9) General Motors Corp., The Substandard Worker, Physical Exam & Placement. Industrial Medicine, June 1942. (Lost time Male and Female from Illness.)

(10) General Motors Corp., Sickness Absenteeism. A. T. Court, Industrial Medicine, June 1942. (Rates)

## II - ALL CAUSES

(1) Consolidated Aircraft Corp., (unpublished report) Absenteeism of Hourly Employees (Absences, not sick absences)

# Source Book — Feb. 1943 Notes

Kansas Ordnance — little if any more absenteeism among women than among men. — Absenteeism ✓ greatly reduced by rule requiring employees to report to plant doctor before leaving, if before end of shift, and upon returning after an absence.

A.C. Gilbert, New Haven, Conn. (Hares) Not much absenteeism — 5 day week so married women have time to look after home duties.

In Britain ultra-violet lamps have reduced absenteeism from sickness by 60%, esp. in blacked-out factories. Now in one Amer. plant 10 workers at a time can ride ~~an ultra~~ a "merry-go-round", & thus 100 an hr. can get "irradiated". An underground solarium in a Brit. firm's 1st Aid post reduced sickness of office staff 60% (mostly colds) and factory workers over 35%.

Rockola, Chicago (Ripley) — low absence rate among old employees. Absenteeism mostly among new women workers who "do not take jobs seriously."

Studebaker (aircraft engines) Reduction by telephoning employee's home to check on absence status, also home visits.

Source Book

Jan 43

Belmont Radio - Chicago - serious problem - 1) live far away 2) want to spend, 3) tavern across street & much drunkenness among young women & girls.

Western Elec. - Girls come drunk to work on 11 P.M.-7 A.M. shift. Company now making study, by shifts.

Teletype - 3.3% absence - at least ½ of them justifiable, sickness or difficulty in arranging proper care for children.

Commercial Iron Works, Portland, Ore. - absenteeism greater among men after women put on easier jobs to which men formerly rotated. Probably difficult for them to work steadily on welding down in hull, among fumes. Used to get a respite by doing slab welding now done by women.

Cessna Air craft - Kansas - contest, prizes for ideas - main value is to make them think about it - low rate probably due more to Visiting Nurse Service & Termination after certain no. of unexcused absences.

Beech Air craft - planning contests with prizes - 2.6-3% among women, not much higher than among men - 3 unexcused absences = cause for investigation & dismissal.

# Source Book

Boeing Aircraft, Wichita, Kansas – rate much lower than in Seattle plant; now making study, by sex & dept. Estimate 2% higher for women than for men – end of Dec., for both, rate was 7%, but Jan. 1-15, -2.49%.

Aero Parts Mfg. – Wichita – rate 2% higher for women than for men Methods to combat: 1) Visiting nurse service; 2) Magazine articles; 3) Supplemental training courses, – attitudes.

Coleman Lamp & Stove Co., Wichita – (munitions, portable heating units) Absenteeism decreased when Co. went on 9 hr. shifts

Studebaker Aviation, Chicago – slightly higher for women – 42% of women's absences & 45% of men's on night shift (Only 2 shifts). Highest on Sat. night & Mon. day shifts.

Mallory, Indianapolis (Bomb releases) – Women need help in child care, important cause of absenteeism.

Chrysler, Evansville (Small arms ammun.) no records but find it high – Nurse visits home after 3 days. If unjustified, laid off for 3 days. 5 days unexcused, and without reporting in, is cause for dismissal.

Charlestown Boston Navy Yard – less among women than among men – women often absent on account of illness now have to be examined by Navy doctor before return to work.

Portsmouth N.H. Navy Yard – Tight check on absenteeism – permission or excuse not given without good reason – sick leave not granted except when checked & when record is good.

Source Book

W.K.A. - Letter to E. Christman - 2-15-43 - her opinion that Absenteeism among women apt to increase due to lag in measures for child care, shopping etc. Short shifts or part-time weeks may develop, perhaps in non-essential industries with women releasing men there so that latter can take over heavier jobs in war industries.

Assoc. Press - March 13 - Axis radio broadcasts tell difficulties with absenteeism. Rome decrees prison sentences to 6 mos. for absences over 24 hrs.

Eastern Aircraft Div., General Motors, Linden, N.J.
Absenteeism for plant = 3.2%; for women = 4.45; for men = 2.61. Improvement due to installation of women supervisors to help with everything away from the machine

Wash. D.C. Star - Edward Robinson, A.P. writer, from London:
"Remedies for Absenteeism: Britain Seeks Solutions from within Indus."
Bevin advises each to settle locally. Suggests: 1) Keeping better records & discussing regularly at labor-management committees; 2) med. exams in sickness, careful investigation of accidents; 3) welfare officers to watch reasonable excuses, & attend to "cures" like transportation, nurseries, hostels, meals, leave for shopping; 4) rotated schedules to give workers another day off weekly besides Sun.

/H/(

Large % of women workers never before in factory work. Fatigue from 56 hr. week an important factor in absenteeism. 2/3 of absence due to illness, especially colds & flu.

# Oklahoma

Oklahoma Ordnance – Absenteeism rate, Feb., = 4% – slightly higher for women 4.2% than for men – mostly transportation difficulties. Relatives take care of children.

Flynn- WMC 2036

QSM
BN
to
Cm - P-Mellett -
LS

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION

For Immediate Release
Monday, February 1, 1943

PM-4299

Action to reduce absenteeism to a minimum in the lumbering industry, through the cooperation of management and labor, was agreed upon at the recent conference of representatives of both groups in twelve Western States, Fowler W. Harper, deputy chairman of the War Manpower Commission announced today. The plan agreed upon includes interchange of data between management and labor unions on individual cases of absenteeism and cooperative remedial action. Both management and labor undertook definite responsibilities for reducing absenteeism, Harper said.

The conference of the lumbering industry was held at Seattle on January 23 and 24 and was preceded by a meeting of labor and management representatives of the non-ferrous metal mining industry in the same states held in Denver on January 18 and 19. Included in this 12-state area are the States of Washington, Oregon, California, Nevada, Arizona, Montana, Idaho, Wyoming, Utah, Colorado, New Mexico, and Texas. Mr Harper was in charge of both conferences which were called, in accordance with a provision of the War Manpower Commission's employment stabilization plan, to review progress and consider modifications or alteration of the program.

Approximately 75 representatives of labor and management attended the Denver meeting and about 100 participated in the Seattle conference, attendance at each including all labor unions and all large producers and their associations.

Both conferences unanimously approved continuation of the employment stabilization plan, with certain recommended revisions, stating that the order had substantially reduced labor turnover and out-migration in the activities. This order provides that, except under certain specified conditions, workers in the non-ferrous metal and lumber industries may not switch to other jobs, nor may employers in those industries release workers to other jobs, without first obtaining a certificate of separation from the United States Employment Service.

In this connection, both conferences recommended hiring controls also be established over in-migration in the principal industrial areas throughout the 12-state territory to guarantee that men leaving the non-ferrous mining or lumber activities would not be hired by other industries without permission of the United States Employment Service. It was emphasized that such hiring control is especially demanded in labor shortage and anticipated labor shortage areas, including San Diego, Los Angeles, San Francisco, Portland and Seattle.

Agreeing upon action to reduce absenteeism to a minimum in the lumbering industry, through cooperation of management and labor, the Seattle conference declared that because absenteeism arises from a number of different causes it can be significantly reduced only by cooperative application of a comprehensive

(Over)

program. The conference adopted a report of its Committee on Manpower Utilization and Absenteeism, which provides:

"Wherever a local union exists, each employer shall report the current absenteeism record to the local union at regular intervals of one or two weeks. The union shall interview each absentee to determine the cause of the absence.

"Where the absence results from a cause beyond the control of the employee, the union shall discuss with management possible steps for remedying the cause. Where the cause cannot be removed by management, or where management refuses to take appropriate action, the union or management shall recommend remedial action to the Area War Manpower Committee. Where the absences result from lack of action by other government agencies, the Area Manpower Director may attempt to obtain the necessary action from these agencies at the local level or forward the recommendations to the Regional Director for action above the local level.

"Where the absence results from a cause within the control of the employee, the union and management shall take whatever action they deem necessary to prevent recurrence. Such steps may include persuasion, exposure and, as a last resort, report to the Area Manpower Committee, which may decide to report the fact to the absentee's Local Selective Service Board for possible reclassification.

"Where there is no local union, the employer may report to the Area Manpower Committee, for investigation and remedy, any serious cases of absenteeism."

Announcing the results of the conferences, Deputy Chairman Harper stated that Chairman Paul V. McNutt had expressed extreme gratification with the attitude of both labor and management throughout the deliberations. There was obvious sincerity on the part of both groups in the conferences to cooperate with the War Manpower Commission, Mr. Harper said.

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# ADVANCE RELEASE

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ADVANCE RELEASE: For SUNDAY PAPERS, February 14, 1943.
Mehrtens - Maritime-60

OFFICE OF WAR INFORMATION
UNITED STATES MARITIME COMMISSION

OWI-1271

A comprohensive eleven point safety and health program for all commercial shipyards, designed to conserve manpower and reduce job absences caused by accidents and illness, which was arranged through collaboration between the Maritime Commission and the Navy Department, was announced by the Maritime Commission today.

Necessitated by greatly expanded ship production schedules, the plan reflects the first nationwide agreement voluntarily entered into by government and labor and management in a major American industry to carry out a safety and health program which will ultimately affect approximately 1,300,000 workers.

Establishing a minimum for all medical and safety standards in shipyards, the program calls for the following provisions:

1. Adequate medical and hospital facilities to be provided for all workers.

2. Development of standardized report forms to record the frequency and causes of accidents for the entire industry.

3. Establishment of uniform regulations for air raid protection.

4. Provision for improved eating and hygenic conditions in shipyards.

5. Provision for proper ventilating facilities in closed places.

6. Provision for the issuance of personal protective devices such as goggles, protective masks, safety shoes, etc., and training in their use.

7. Placing upon management the responsibility of providing safe working enviornment; training of employees for safety; establishment of an accident record and reporting system which will definitely tie into nationally uniform reporting, record and statistical requirements; appointment, where necessary, of a safety engineer and staff to install, maintain and properly supervise the program.

8. Cooperation between workers and management in preventing accidents and promulgation of safety rules, through labor management and safety committees.

9. Special emphasis on safety clothing particularly for welders and women workers.

10. Protection of eyesight through the establishment of proper lighting to yards.

11. Special protection through adequate safeguard devices on all moving machinery.

(over)

The program will be administered by four regional safety consultants, four regional hygenists and two physicians employed by Maritime Commission and the Navy. It is understood that these Government representatives will operate in a purely advisory capacity.

The new safety standards are the result of an intensive fact-finding survey on all coasts as well as inland plants conducted under the direction of Dr. Philip Drinker, head of the School of Public Health, Harvard University, and John M. Roche, industrial safety engineer, National Safety Council, acting under the supervision of Daniel S. Ring, Director, Division of Shipyard Labor Relations, United States Maritime Commission.

Following the survey, safety and industrial health standards were developed and presented, in the form of recommendations to a conference of safety engineers, physicians and labor and management representatives of approximately 90 percent of the commercial shipyards, held in Chicago on December 7 and 8, 1942. The recommendations were analyzed, revised and endorsed by the Conference, approved by the Maritime Commission and the Navy Department and will now go into effect throughout the United States.

While the present rate of expansion in shipyards has brought the annual accident rate to 37.91 per 500 workers, and in some cases it has jumped to as high as 232.56 per 500 workers, it is pointed out that in shipyards where adequate precuations have been installed, the annual accident rate has been reduced to as low as 8.46. During normal times the general average was approximately 18.6.

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C S Monitor

FEBRUARY 16, 1943

# Absenteeism At Navy Yards Target of Bill

WASHINGTON, Feb. 16 (AP)—Congressional action intended to halt absenteeism among civilian Navy Yard employees—a step described by Representative Lyndon Johnson (D) of Texas, its sponsor, as a "work or fight" order—was initiated today by the House Naval Affairs Committee.

The move was taken by writing into a minor bill an amendment to require all Navy yards to file with local Selective Service boards the name of each civilian employee "who has been absent from his employment without prior authorization."

Mr. Johnson and committee Chairman Carl Vinson (D) of Georgia reported a separate bill would be drafted tomorrow covering absenteeism among all employees of private companies with naval contracts and subcontracts.

Mr. Vinson said that the measure could be widened on the House floor to cover all employees of companies engaged in war work.

Today's amendment was written into a bill approved by the Committee to provide for the return of Government employees from Honolulu at Government expense.

Mr. Vinson said the new bill, in addition to requiring submission of absent workers' names to Selective Service boards, would instruct the boards to determine whether they should be further deferred from induction in the armed forces.

The amendment written into today's bill, which Mr. Vinson said would come up for action sometime next week, provided that:

"Each Navy Yard and station shall on or before the 10th day of March, June, September, and December of each year, file with the appropriate Selective Service local board a verified statement setting forth:

1. The name of each civilian employee subject to the jurisdiction of such Selective Service local board who has been absent from his employment without prior authorization,
2. A brief description of the nature of the duties performed by such employee,
3. The period of time during which such absence continued, and,
4. An expression of the opinion of the Navy Yard or station as to whether such absence was justified and, if so, the reasons therefor.

The move followed by one day the action of William H. Collins, general manager of the Bethlehem Steel Company's shipbuilding plant at Quincy, Mass., in discharging 150 welders on the ground that they had been absent without excuse.

The plant management said that, in compliance with Selective Serv-e regulations, the workers' local rds were being notified of the nination of their employment.

February 22, 1943

Memorandum:
To: Miss Mary Anderson
From: Bertha M. Nienburg

Re: Bureau of Labor Statistics and Absenteeism

The Articles of B. L. S. are general, based on a few plant records. The " in Monthly Review 1942 is good review.

On the Plant Report of Operations gotten for the W.P.B., they ask:

Total Man-hours lost during week due to absenteeism
1. Reported sickness and accident
2. Other reported reasons
3. Unexplained absences.

When schedule is revised in April, expect to break it down by sex.

Still

Absenteeism
No answer
necessary

141 W. 97 St.
New York, N.Y.
Feb. 24, 1943

WOMEN'S BUREAU
FEB 26 1943
DEPARTMENT OF LABOR

Madam Perkins
Sec. of Labor
Washington D.C.

Dear Madam Perkins:-

For sometime I've been listening and reading about absenteeism in the War Industry. It appears to be growing.

Well I've been working in a war plant as a factory worker and have had an opportunity to observe first hand

The majority of workers of these plants, and to make a study of them their problems and the reasons for their being absent. I was at one time a Social Welfare Worker and Industrial Welfare on such a large and emergency scale interests me. The reasons as a whole as far as I can gather especially among the women workers for being being absent and, I belive this one is should be listed first are these — Trying to do two jobs (home & war work) which means little sleep, which eventually wears them out therefore they must absent them selves for one or two days to rest up. Also their resistance is low colds industrial accidents etc. occur. These are just a few things resulting from the above.

2- Trying to earn a lot of money. With out any to regard to their health

3- Very few cases of too much good time. I think this was stress ed in the news papers by some thoughtless and inexperienced news paper man. No doubt some do take a drink others to excess but I don't think they are in the majority.

I know that you Madam Perkins know best how to solve these problems and perhaps are aware of these conditions and I'm sure each war plant ~~must~~ certainly must be aware of these very personal and very real problems and many man hours could be saved by a constructive approach to the problem

I don't think whole-sale dismissal will do it, as more harm than good will come to the country by having a constant turn over of personnel, they will loose more hours and time and it would be very bad for the moral of the country.

I think this problem altho serious on the surface if given proper thought and approch could be settled quickly.

I've written this in a hurry if I've put the cart before

7

The horse I'm sorry
but I'm sure you
will understand.

Ive just gotten out
of bed I'm getting
ready for work. I'm
on tthe Swing shift.

Ive wanted so many
times to write before
but it seems I can
speak better than
I can write.

Thank you for hearing
me outt.

Sincerely
Helen Clarke

# Rationing Reminders

*Shoes*

Stamp No. 17 in War Ration Book One is valid for one pair of shoes through *June 15.*

*Fuel Oil*

Following are the expiration dates of *Period 4* fuel oil ration coupons (worth 9 gallons for Class I, 90 gallons for Class II consumers in 17 Eastern States and the District of Columbia; 11 gallons for Class I and 110 gallons for Class II consumers in 13 Middle Western States):

*April 6*—Zone C.
*April 6*—Zone D.
*April 12*—Zone B.
*April 17*—Zone A.

Persons who no longer have Period 4 coupons may obtain additional rations by "cashing in" some of their Period 5 coupons at their local boards.

*Gasoline*

No. 4 "A" coupons are valid for three gallons each through *March 21.*

"B" and "C" coupons expire according to the dates indicated on the individual books.

"T" rations are issued by local rationing boards after approval is obtained from local Offices of Defense Transportation on the basis of certificates of war necessity.

*Tires*

Inspection deadline for "A" motorists has been extended to *March 31;* for "B" and "C" bookholders, to *February 28.* Drivers who have not yet had their tires inspected are urged by the local OPA to do so early enough to avoid last-minute rushes.

All drivers are eligible to obtain certificates for recapping or for Grade 3 replacement tires. "B" and "C" book drivers with less than 1,000 essential miles per month may obtain certificates for Grade 2 tires and "C" motorists with more than 1,000 essential miles per month are eligible for Grade 1. All applicants must first have their tires inspected at authorized stations and must present statements showing the need for recapping or replacements.

*Sugar*

Coupon No. 11 in War Ration Book No. 1 is good for three pounds of sugar through *March 15.*

*Coffee*

Stamp No. 25, valid for one pound of coffee, may be redeemed any time through *March 21.* This represents a ration of one pound per person every six weeks instead of every five weeks as originally provided. Coffee rations are good only for books issued to persons at least 15 years old.

*Processed Foods*

*February 21*—Sale of point rationed canned goods and related food items to consumers will be frozen until *March 1.* Presentation of stamps from War Ration Book No. 2 then will be necessary with each purchase.

Retailers and wholesalers are reminded that they will be required to produce detailed records of their business for the month of December 1942, as a preliminary to the beginning of the new rationing system.

*Bicycles*

In the 17 Eastern States where gasoline rations have been cut, persons gainfully employed or doing voluntary work in connection with the war effort or the public welfare, as well as school pupils, may obtain certificates for the purchase of bicycles if needed to travel between home and work or school.

*Typewriters*

Rentals of nonportables manufactured after 1934 are banned.

Rentals of nonportables made between 1927 and 1935 may be made for not more than six months. Most portables made since 1935 may also be rented on the same basis.

Rentals of portables manufactured between 1927 and 1935 may still be made for not more than six months. Most portables made since 1935 may also be rented on the same basis.

# Many Causes for Job Absenteeism

## Government Agencies Try to Find Answer

Facts about the causes of absence from war jobs today are being brought to light through a combination of independent studies made by major war agencies. The findings indicate that responsibility for cure of job absence is shared by management, workers, communities, and local, State and Federal Governments.

War Manpower Commission, War and Navy Departments, Maritime Commission, War Production Board, including WPB's War Production Drive, Labor Department, and Office of War Information are studying the problem in an effort to determine proper steps to reduce both voluntary and involuntary absence from work.

Understanding of the nature and causes of the problem is a necessary prerequisite to remedial action, and a full knowledge of its causes will go far in any program to increase productive hours in war plants, the findings reveal.

### *Many Causes Found*

The studies classify "job absences" as follows:

1. Unavoidable, caused largely by serious sickness and accidents.

2. Preventable, due to minor illness and preventable accidents, poor housing and overcrowded or inadequate transportation facilities, fatigue caused by excessive work hours, job shopping and restlessness of workers, and failure to keep materials and products moving steadily to assure maximum use of all workers.

3. Inexcusable, due to failure of managements to impress workers with sense of individual responsibility in war, inadequate supervision, bad scheduling of work and failure to obtain all necessary materials in advance, labor hoarding; and, failure on the part of workers, after-payday absences, time off to keep social engagements, hangovers and "war prosperity."

Labor organizations and managements have been doing much to deal with the causes of job absences, but it is obvious that more will have to be done as war labor becomes more precious and more important as a factor in supplying the fighting forces.

# Industry Advisory Committees Appointed

## WPB Announces Appointments for Week Ending February 13

### *Wet Ground Mica*

Government Presiding Officer: S. A. Montague.

Members:

J. Fuller Brown, Richmond Mica Corporation, Biltmore, N. C.; John Davenport, Franklin Mineral Products Corporation, Boston, Mass.; W. F. Deneen, Newdale Mica Company, Erwin, Tenn.; F. D. Pitts, Concord Mica Co., Newton, Mass.; J. B. Preston, Jr., English Mica Co., Spruce Pine, N. C.; David T. Vance, David T. Vance Co., Plumtree, N. C.

### *Research Laboratories*

Government Presiding Office: W. C. Stevenson.

Members:

Howard E. Dippel, Bell Telephone Laboratories, New York, N. Y.; F. L. Foster, Massachusetts Institute of Technology, Cambridge, Mass.; R. A. Richardson, General Motors Laboratories, Detroit, Mich.; H. H. Ewing, Dupont de Nemours, Wilmington, Del.; Dr. Allan Gregg, Rockefeller Foundation, New York, N. Y.; R. W. Sorenson, Calif. Institute of Technology, Pasadena, Calif.; W. A. Welcker, Battelle Memorial Institute, Columbus, Ohio.

### *Dry Ground Mica*

Government Presiding Officer: S. A. Montague.

Members:

Harry Bailey, Carolina China Clay Co., Penland, N. C.; J. Fuller Brown, Asheville Mica Co., Biltmore, N. C.; W. F. Deneen, Newdale Mica Co., Erwin Tenn.; Philip S. Hoyt, Capitan Hotel, Van Horn, Tex.; M. F. Mills, Victor Mica Company, Inc., Spruce Pine, N. C.; Sigurd Olsen, U. S. Mica Manufacturing Co., E. Rutherford, N. J.; D. D. Rice, Southern Mica Co., Johnson City, Tenn.; Fred Smith, Harris Clay Co., Spruce Pine, N. C.; Joseph A. Stanko, Western Non-Metallics, Inc., Pueblo, Colo.

### *Scrap Mica Producers*

Government Presiding Officer: S. A. Montague.

Members:

Charles Bradley, Bradley Mica Co., Inc., Franklin, N. C.; J. Fuller Brown, Lincoln Mining Co., c. o. Asheville Mica Co., Biltmore, N. C.; Milton Burleson, Vance-Burleson Mica Co., Spruce Pine, N. C.; James Edwards, Carolina Mica Co., Kingsport, Tenn.

### *Mechanics' Hand Service Tools*

Government Presiding Officer: Percy Ridings.

Members:

C. P. Brewster, K-D Manufacturing Co., Lancaster, Pa.; Harry B. Curtis, The Bridgeport Hardware Manufacturing Corporation, Bridgeport, Conn.; George J. Michel, H. Boker & Co., Inc., New York, N. Y.; Edward Norris, Utica Drop Forge & Tool Corporation, Utica, N. Y.; William H. Hall, Kraeuter & Co., Inc., Chicago, Ill.; W. R. Hosford, Duro Metal Products Co., Chicago, Ill.; A. E. Keating, Trimont Manufacturing Co., Roxbury, Mass.; Edwin Krall, Vlchek Tool Co., Cleveland, Ohio; J. W. McDonough, The Sherman-Klove Co., Chicago, Ill.; John Merker Blackhawk Manufacturing Co., Milwaukee, Wis.; Rogers Palmer, Snap-On Tools Corporation, Kenosha, Wis.; M. L. Peterson, Crescent Tool Co., Jamestown, N. Y.; Harold L. Schlosser, Lectrolite Corporation, Defiance, Ohio; Dillon Stevens, Plomb Tool Co., Los Angeles, Calif.; Otto Swanstrom, Diamond Calk & Horseshoe Co., Duluth, Minn.; C. Nelson Wright, The Wright Tool and Forge Co., Barberton, Ohio.

### *Waste Material Suppliers*

Government Presiding Officer: David Graham.

Members:

Joseph A. Benedetto, D. Benedetto, Inc., New York, N. Y.; H. P. Christian, Pacific Coast Waste Paper Corporation, Los Angeles, Calif.; David M. Dickson, Penn. Paper Stock Co., Philadelphia, Pa.; Robert Johnston, Jr., General Paper Stock Co., St. Louis, Mo.; John S. Letellier, Letellier-Philips Co., New Orleans, La.; F. E. Wilcox, Industrial Paper Stock Co., Kansas, City, Mo.; Harry Resnick, Acme Paper Stock Co., Louisville, Ky.; Harold Shilling, U. S. Paper Supply Co., Chicago, Ill.; Haskell Stovroff, Buffalo Waste Paper Co., Buffalo, N. Y.; Stuart B. Sutphin, The I. V. Sutphin Co., Cincinnati, Ohio; Paul J. White, Great Eastern Packing & Paper Stock Corporation, Maspeth, N. Y.

### *Paint Brush Manufacturers*

Government Presiding Officer: Philip H. Thayer.

Members:

Barnett Buddish, Rubberset Co., Newark, N. J.; Walter R. Foss, The Wooster Brush Co., Wooster, Ohio; Walter Grumbacher, M. Grumbacher, New York, N. Y.; E. F. Johnston, Wolfe Brush Co., Pittsburgh, Pa.; Aaron Linzer, David Linzer & Sons, Inc., New York, N. Y.; Franklin C. Maxwell, Elder & Jenks, Philadelphia, Pa.; Ernest C. Morck, Morck Brush Manufacturing Co., San Francisco, Calif.; A. S. Polk, Pittsburgh Plate Glass Co., Rennous-Kleinle Division, Baltimore, Md.; Isidor A. Rubin, Rubico Brush Manufacturing Co., New York, N. Y.; E. J. J. Schmidt, Gerts Lumbard & Co., Chicago, Ill.; L. R. Schumann, Star Brush Manufacturing Co., Boston, Mass.; Howard M. Ward, Samuel M. Dell & Co., Inc., Baltimore, Md.

### *Brattice Cloth*

Government Presiding Officer: F. H. Rhoden.

Members:

L. E. Hirschfeld, manager, Fulton Bag & Cotton Mills, New York, N. Y.; L. F. Hiltz, treasurer Jute Industries, Ltd., New York, N. Y.; G. C. Hutchinson, Jr., vice president John Flocker & Co., Pittsburgh, Pa.; F. C. Larson, vice president White Lamb Finlay, Inc., New York, N. Y.; D. P. Forse, vice president Johnston-Morehouse-Dickey Co., Pittsburgh, Pa.; C. H. Matthews, The Upson-Walton Co., Cleveland, Ohio; Herbert E. Rhein, manager American Brattice Cloth Corporation, Warsaw, Ind.

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Allied troops fighting in North Africa are familiar with rationing of the scarcest commodity there—water. From private to general, water rations are identical.

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# Relief for Harassed Businessmen

## Commerce Department To Curtail Questionnaires

As a step toward eliminating unnecessary forms and questionnaires which harassed businessmen are called upon to fill out, Secretary of Commerce Jesse Jones last week appointed Howard H. McClure as Assistant to the Secretary, charged with responsibility for planning and giving general direction to a broad statistical program functioning in the Department of Commerce.

In announcing the appointment of Mr. McClure, Mr. Jones emphasized the fact that in a war emergency adequate and accurate information is of vital importance, stating, however, that this obvious fact does not excuse the wholesale broadcasting of questionnaires, some of which are so complicated as to be difficult to understand.

### *Questionnaires Reviewed*

Mr. Jones said that Mr. McClure would immediately undertake a review of all questionnaires at present sent out by the various bureaus of the Department of Commerce in order to eliminate as many as possible and simplify procedures wherever practicable. He also will seek properly to coordinate and consolidate essential data obtained through questionnaires.

Mr. McClure will concern himself with all major department statistical surveys and inquiries, whether in response to direct legal requirements or on behalf of industry, professional research workers or war and other Government agencies. He will develop procedures for segregating, analyzing, and interpreting such data to meet the particular requirements of the governmental and nongovernmental agencies served, and will supervise the recording and publishing of such data for future use and historical purposes.

### *Use Collected Statistics*

The Department of Commerce further plans to utilize the statistics collected by other Government agencies, especially those of the Bureau of Internal Revenue and the Federal Security Agency, as well as to make the information collected by the Department more readily available to other Government agencies. Wherever possible special tabulations of existing data will be made in order to render unnecessary the sending out of additional questionnaires by other agencies.

U. S. Department of Labor
Women's Bureau
Washington

March 1943

# ABSENTEEISM
(Unauthorized time away from the job)

## I. Extent

Few statistical data are available to indicate the general extent of absenteeism in war industries. Scattered surveys have been made, but many of these are of limited value because they cover too few workers and plants:

a. Bureau of Labor Statistics reports from commercial shipyards show absenteeism rate of 7.8 percent in October 1942. Women were then 2 percent of the workers. In the airframe and propeller industry, B. L. S. reports absenteeism at 6.4 percent.

b. War Manpower Commission survey of 45 plants employing 210,000 workers in Michigan, Ohio, Kentucky, released in February 1943, shows absenteeism rates varying from 3 percent to 6 percent.

c. The New York Regional W. M. C. study in January 1943, covered only 8 plants employing 40,000 workers; showed average daily absenteeism rate of 6 percent for all workers; greater for women than for men; highest rate the day after pay day.

d. National Industrial Conference Board study, November 1942, covered 22 companies, employing 80,000 workers; showed that illnesses accounted for 47.5 percent of absenteeism; personal reasons accounted for 51.9 percent of absenteeism, greater for women than for men.

e. C. I. O. President Murray estimates that normal absenteeism of workers in American industry is 2.2 percent. Since the war it has increased to 4.5 percent, and among women it is 6.5 percent.

f. British Experience: In the fall of 1942 it was estimated, unofficially, that 10 percent daily of the 6,000,000 British war workers were absent from work. Though legal proceedings may be instituted against those who are absent without reasonable excuse, the British Government has made little use of its legal authority. Instead it has adopted a remedial program by trying to find the cause of the absence and correct it.

## II. Causes of Absenteeism

Absenteeism can be dealt with effectively only if the causes are known. Statistical data do not differentiate between voluntary and involuntary absenteeism, i.e., between casual and deliberate absence from work, and absence due to causes beyond the worker's control. The distinction is especially important in the case of women workers. Women are more subject to illness than men. Many women carry on two full-time jobs--home and factory. Absenteeism can be reduced only if industry and the community will cooperate to remove the causes of absence.

### a. Illness and Accidents

It is generally agreed that the major cause of involuntary absence is sickness.

The U. S. Public Health Service reports show that in 1940 the frequency of sickness and nonindustrial injuries lasting more than 8 days was 153 per thousand for women as compared with 96 per thousand for men. For 1941 the number of cases per thousand women was 163 as compared with 101 cases per thousand men.

For illnesses of short duration the excessive sickness rate for women is even more marked. One company reporting to the Public Health Service, for example, found that the annual rate of sickness of 1 day or longer was 1,561 per thousand women, and 894 per thousand men.

In addition, where both husband and wife are working, sickness among family members or children usually means that the wife rather than the husband remains at home to provide care.

### b. Fatigue

Fatigue due to continuous work with too little time for rest and relaxation is a direct cause of absenteeism. The worker takes time off to rest up, sometimes preventing serious sickness or nervous exhaustion later.

Long working hours inevitably cause fatigue. Night work makes it difficult for the worker to get sufficient rest. The 7-day week is particularly harmful. A General Motors study showed that absenteeism was greater where the workweek was changed to 7 days of 7 hours each than it had been when the workweek was 5 days of 10 hours each. One day off per week is essential to keeping down fatigue.

Working conditions in some plants, poor eating facilities, inadequate lighting and ventilation, increase fatigue. In some plants insanitary, crowded, and poorly kept restrooms contribute to dissatisfaction and uneasiness of women workers.

Pages missing in original

2. What the Community Can Do:
Any steps taken to lighten the woman worker's double load of factory work and housekeeping, or to improve her living conditions, will indirectly reduce absenteeism. Some of the methods found satisfactory in Great Britain which might be useful here are the following:

a. Time off for shopping:
One afternoon a week is allowed in many British plants, or in some cases 1 or 2 hours twice a week. Some firms have a relief worker who takes over as the regular workers take their turns at shopping.

The Women's Bureau has reports of some war plants in this country that now maintain a mobile utility working force used as fill-ins for absent workers. However, no such plan appears to be in use for absences excused in advance.

b. Shopping certificates:
The British have worked out a system by which the worker can leave a "priority certificate" or a written order on the way to work, to be picked up at the end of the day or later in the week, so that the worker gets her share of rationed and unrationed goods. "Buyer certificates" are also used so that friends of workers can do their shopping for them.

c. Change in business hours:
In some areas both here and in Britain, stores are kept open later than normal to allow workers to shop in the evening. There is need for access to professional services at other than the established hours. Workers who must visit dentists, doctors, and lawyers usually must take time off from work.

d. Communal food services:
The British Government has recognized the importance of factory food service and may require any manufacturers employing more than 250 workers on war production to provide canteens. Many plants in this country lack satisfactory food facilities where hot meals may be purchased at reasonable cost.

British Restaurants, which is the term used for emergency eating centers, furnish food at nominal cost to the general public. Many families make use of these restaurants for meals outside the home.

e. Day care of children:
Adequate provision to meet this need is an immediate requirement if absenteeism among married women homemakers is to be reduced.

f. Improved housing facilities:
In some areas workers are living in trailers, tents, and hastily constructed wooden shacks. In rooming houses, beds are occupied by workers in rotation, and highly insanitary conditions are reported. Communities can do much to relieve unsatisfactory housing conditions.

U. S. Department of Labor
Women's Bureau
Washington

March 1, 1943.

**MEMORANDUM**

To: Miss Stitt — Angus.

From: Bertha M. Nienburg

Re: Absenteeism

The Bureau has had definite plans for making an absenteeism study for some months. However, such a study cannot be made without additional funds. The general outline of the study is available should you wish it.

I am attaching herewith certain notes dealing with the subject. These contain the major data collected to date.

* * *

Little:72809

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION - WAR PRODUCTION BOARD

For Immediate Release
Tuesday, March 2, 1943

OWI-1364

Moving into action to combat war industry job absences, War Manpower Commission and War Production Board are preparing to present a comprehensive plan as a guide for labor, management, communities and governmental agencies.

WMC Chairman Paul V. McNutt and WPB Chairman Donald Nelson have exchanged letters agreeing in principle to steps taken and contemplated. Both letters emphasized broad responsibility for job absences and the necessity for local cooperation in carrying out a program to reduce them.

Following an extended study made and submitted by the Production Information Committee, composed of representatives of all the major war agencies which have been analyzing the problem, the corrective program is now being completed by responsible divisions of WMC and WPB.

Details of the program as worked out by the two agencies will be presented at a meeting early this month of executive officers of 13 government agencies and bureaus for the purpose of utilizing all available facilities for action.

It was agreed that the rate of job absences in many war industry areas is assuming proportions to warrant organized and systematic attention. Although adequate statistical data is not yet available, McNutt and Nelson agreed that a remedial program should be aimed at basic sources, establishing responsibility for time lost from work, and acting through a remedial program of correction of causes and full public information.

McNutt suggested to Nelson that the WPB's Labor Production Division be designated to work with the War Manpower's national, regional, and local staff and the corresponding War Manpower Labor-Management Committees in coordinating the program.

Approving this suggestion, Nelson urged immediate action on a program to utilize and coordinate activities of labor and management, with community and government collaboration. He stressed the key role that plant Labor-Management Committees would play in the program.

# # # #

Absenteeism

# Reducing Absenteeism Through Employee Education

*A Report Prepared for Metropolitan Group Policyholders*

BUREAU
AUG 5 1943

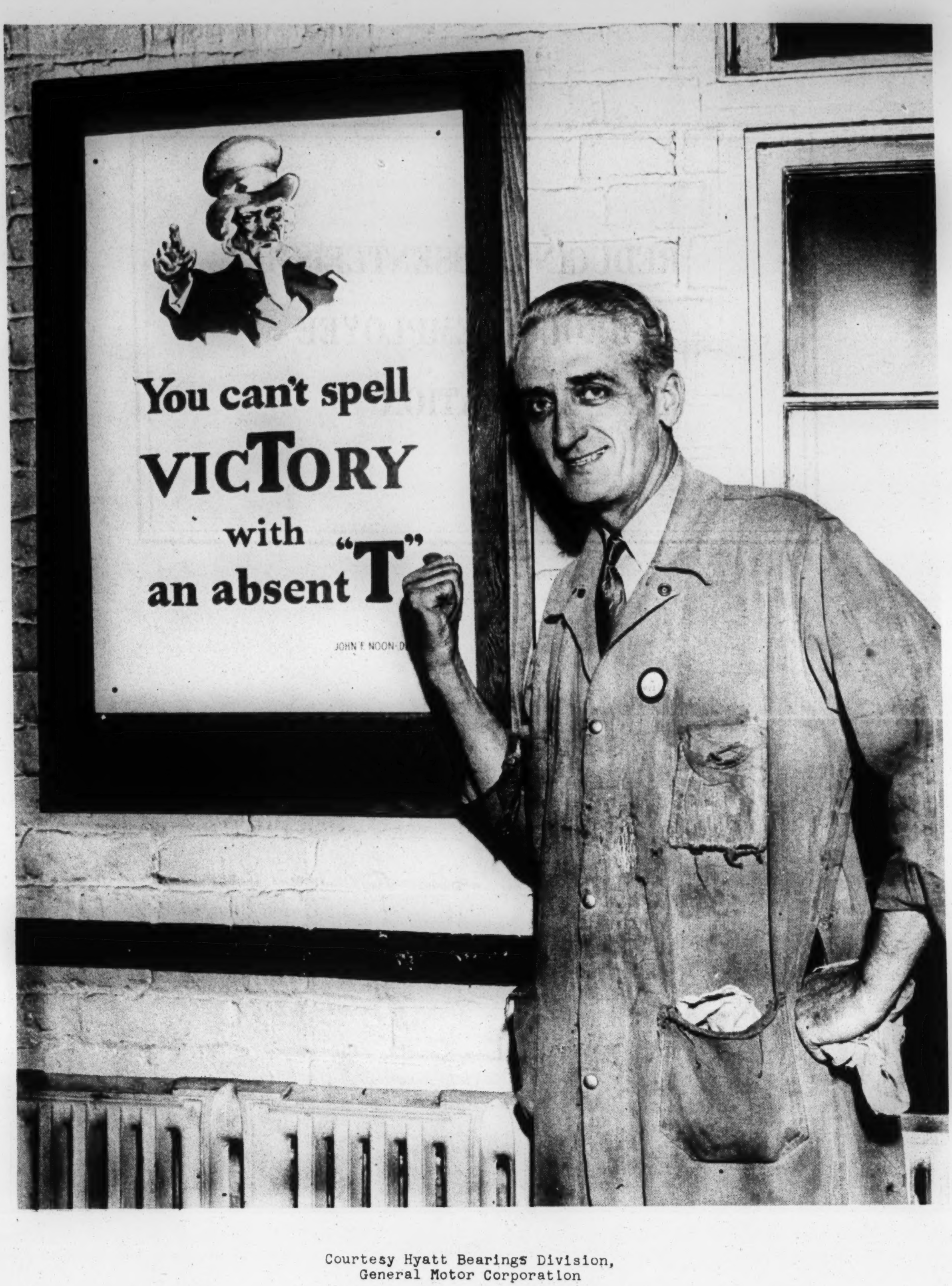
POLICYHOLDERS SERVICE BUREAU
**METROPOLITAN LIFE INSURANCE COMPANY**
HOME OFFICE: NEW YORK
Pacific Coast Head Office: San Francisco
Canadian Head Office: Ottawa

B.416

~~K-B~~

# REDUCING ABSENTEEISM THROUGH EMPLOYEE EDUCATION

*Prepared by*
Policyholders Service Bureau
*Group Insurance Division*
METROPOLITAN LIFE INSURANCE COMPANY


You can't spell
VICTORY
with
an absent "T"
JOHN E NOON-D

Courtesy Hyatt Bearings Division,
General Motor Corporation

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REDUCING ABSENTEEISM THROUGH EMPLOYEE EDUCATION is one of a number of studies issued by the Policyholders Service Bureau. It is typical of one phase of a program of service provided for companies that insure their employees under Metropolitan Group policies.

For many years the Metropolitan's health publications and services have been helping its policyholders keep well. With the growth of Group insurance came demands for special information -- first on problems relating to the health and safety of employees, then to other phases of industrial relations and on problems of general management.

The Metropolitan accepted these service opportunities as a matter of good business practice. The health and safety of employees is directly reflected in the company's claim experience. Assistance on other types of business management problems helps safeguard premium income by acquainting Group-insured companies with methods and practices that have resulted in more profitable operation and more stabilized employment in other organizations.

When the information gathered for a particular Group policyholder is believed to be of wide interest, it is put into suitable report form and offered to Group-insured companies generally. The present report is typical. Some other reports that have grown out of investigations made by the specialists who comprise the staff of the Policyholders Service Bureau are:

LUNCHROOMS FOR EMPLOYEES
STIMULATING AND MAINTAINING EMPLOYEE MORALE
EMPLOYEE MAGAZINES
KEEPING IN TOUCH WITH EMPLOYEES IN THE ARMED FORCES

So far as supply permits copies of these reports and of the INDEX OF REPORTS, which lists other currently available titles, may be had by executives who address the Policyholders Service Bureau on their business stationery. Requests for permission to reproduce in whole or in part, material appearing in these reports should be addressed to this Bureau.

Policyholders Service Bureau
Metropolitan Life Insurance Company
One Madison Avenue
New York, New York

# REDUCING ABSENTEEISM THROUGH EMPLOYEE EDUCATION

## SCOPE OF THE REPORT

The growing rate of absenteeism is one of the major wartime problems of American industry. Vice-Admiral Emory E. S. Land, Chairman of the United States Maritime Commission, told Congress on March 4, 1943, that "illegitimate absenteeism" among shipyard workers is costing the Nation 100 Liberty ships a year. On the previous day Under Secretary of War Patterson testified that the man power lost in one aircraft factory last year through absenteeism would have built 97 medium bombers.

It is perhaps not surprising that at a time when the combination of high wages and scarcity or lack of consumer goods - as, for instance, automobiles - to absorb the high wages may make leisure more attractive than money, the rate of absenteeism should be high. To reduce the number of unnecessary absences, employers are devoting considerable energy to improve the employee's estimate of the value of his job and to persuade him to be on the job every day. Every available means of appeal is used - the employee magazine, booklets, posters, contests, and various other visual and personal contact methods.* These media, or most of them, may be used simultaneously - as is usually the case when a special drive is being made to reduce absence rates, or one or another of them may be used as a continuous reminder that every worker is needed on the job every day if the war is to be won on the home front.

The material used in this report was secured from 42 companies and from reading the employee magazines of more than 400 companies. It constitutes a compilation of practical, tested approaches to the reduction of excessive absenteeism.

## ANALYZING THE PROBLEM

A first step in any drive against absenteeism is to know who is absent. Is it primarily the new employee? Is it the woman employee? Is it some minority group in the plant? Or is the problem general throughout the company? The answers to these questions will determine whether there should be a general morale-building campaign or whether the campaign should be focused on some particular group. Whatever the answer the general methods used are the same, but the approach will be made to the group to be reached.

## THE EMPLOYEE MAGAZINE

The most frequently used approach is the employee magazine. Emotional appeals, statistical arguments, and cartoons are used to make employees realize that "taking a day off" means fewer shells, guns, ships, and airplanes and less food for our fighting men.

---

*These media are discussed in more detail in another report of this series, "Methods of Stimulating and Maintaining Employee Morale."

## The Emotional Appeal

Appeals to the emotions and pride of the worker are often made and in many cases are effective. The following particularly dramatic appeal appeared boxed in heavy type on the first page of the January-February 1943 issue of "The Eaton News," the employee newspaper of Eaton Manufacturing Company:

> **ABSENTEES**
>
> There are three Eaton men absent from duty today -- and our fighting men and the Nation are proud of them. Not those three who had a bad night last night and didn't show up this morning. Not those three who decided this would be a good day to catch up on some lost sleep. Not those three who stayed away to do some odd jobs around the house. No, not these.
>
> These three are a different kind of absentee. They are no longer free to serve the cause of Freedom. Their work is done. Here they are.

Below are the photographs and service records of three former Eaton employees - one killed in naval action somewhere in the southwest Pacific, the second "missing in action" after a bombing raid over western Europe, and the third killed in action while helping the British Eighth Army chase Rommel's army out of Libya.

The "A.W.O.L." employee is taken to task in the December 1942 edition of "The Youngstown Sheet and Tube Company Bulletin" in the following manner:

### "Are You The Man Who Wasn't There?"

> "We don't like to write about it - but there are 'Slackers,' in the Company's plants.
>
> "Let's face it, and call a spade a spade. By 'Slackers,' we mean the guys who still take 'days off' whenever they feel like it. We mean the fellows who aren't on the job when they're supposed to be on the job.
>
> "It doesn't seem quite right that some people should do all the work and others do as little as possible . . .

"Just remember that when a soldier is absent without leave he is liable to be executed when they catch him.

"Just remember that the boys in the Solomons and North Africa aren't taking 'days off' when they get tired of their jobs . . .

"Enough absentees in this country . . . and we'll lose this war. Then we'll all be under the heel of the dictators.

"If you are one of the fellows who takes 'days off' unnecessarily, then it's YOU WE ARE WRITING ABOUT.

"DON'T BE A 'DAY-OFF SLACKER!

"WORK EVERY WORKDAY OF YOUR SCHEDULE!

"IT'S YOUR DUTY TO THE MEN BEHIND THE GUNS!

"IT'S YOUR PART IN WINNING THE WAR!"

Reason as well as the emotions were invoked in the call to doing one's duty every day on the job which appeared as the first page of the "General Electric News, Philadelphia Works" on February 26, 1943. Against a background of war headlines, as shown in the reproduction in reduced size on the following page, an appeal was made to employees to realize their responsibilities in their war jobs.

Occasionally an employee magazine will print a request by the plant union for better attendance. The October 1942 issue of The Union Pacific Coal Company's "Employees' Magazine" reproduced the September 1, 1942, cover of the "United Mine Workers Journal," on which appeared a photograph of Woodrow Wilson beside the following statement:

"TO THE MINER:

"'To the miner let me say that he stands where the farmer does; the work of the world waits on him. If he slacks or fails, armies and statesmen are helpless. He also is enlisted in the great service army.'

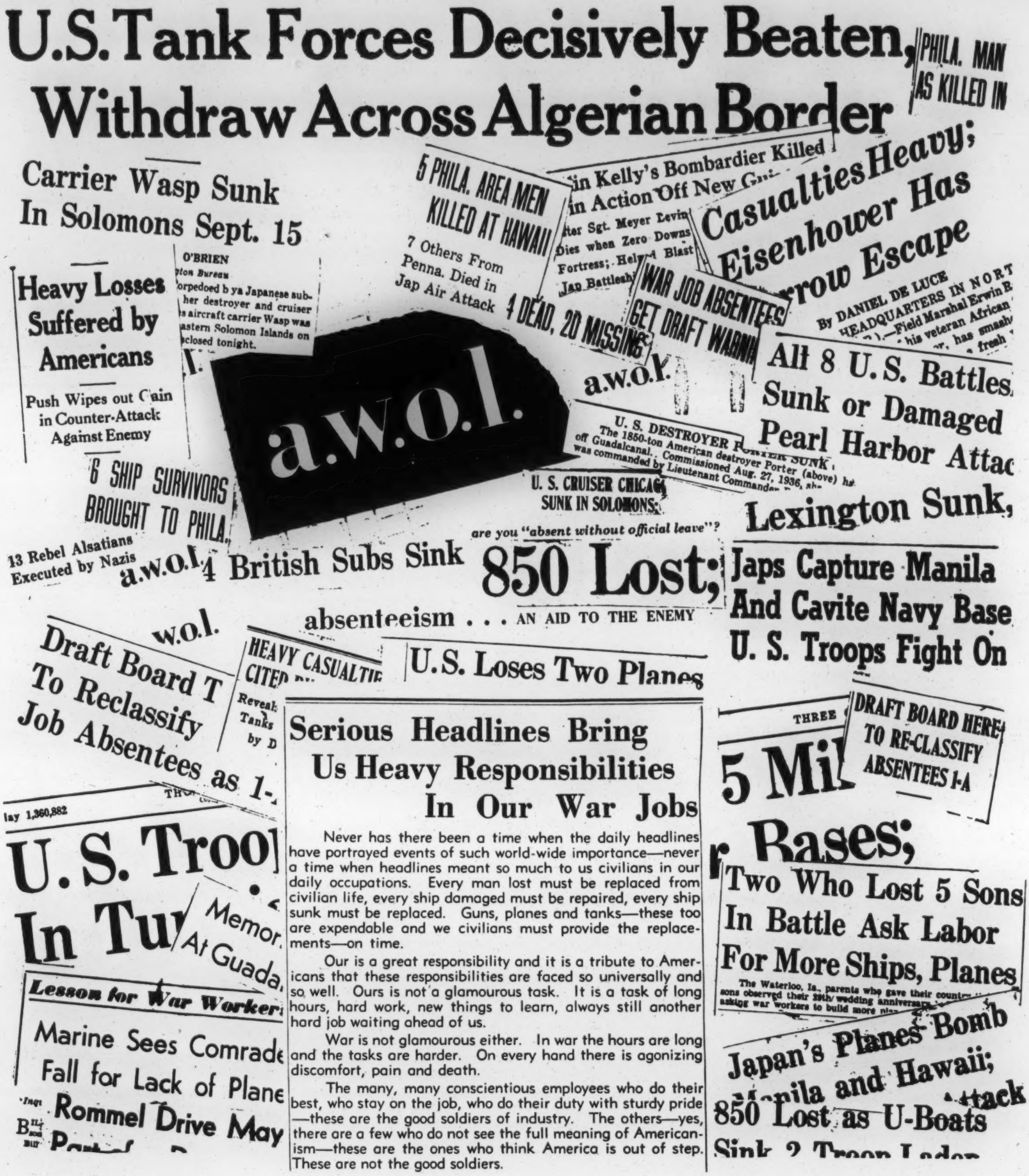
- Woodrow Wilson"

PRODUCING FOR VICTORY

# NEWS
GENERAL ELECTRIC
PHILADELPHIA WORKS

PRODUCING FOR VICTORY

VOL. 21 FRIDAY, FEBRUARY 26, 1943 NO. 8



U.S. Tank Forces Decisively Beaten, Withdraw Across Algerian Border

PHILA. MAN
AS KILLED IN

Carrier Wasp Sunk In Solomons Sept. 15

O'BRIEN
ton Bureau
orpedoed b ya Japanese sub-
her destroyer and cruiser
s aircraft carrier Wasp was
astern Solomon Islands on
closed tonight.

Heavy Losses Suffered by Americans

Push Wipes out Gain in Counter-Attack Against Enemy

5 PHILA. AREA MEN KILLED AT HAWAII

7 Others From Penna. Died in Jap Air Attack

in Kelly's Bombardier Killed in Action Off New Gui

ter Sgt. Meyer Levin Dies when Zero Downs Fortress; Help Blast Jap Battlesh

Casualties Heavy; Eisenhower Has rrow Escape

By DANIEL DE LUCE
HEADQUARTERS IN NORT
—Field Marshal Erwin R
his veteran African
has smash
fresh

4 DEAD, 20 MISSING

WAR JOB ABSENTEES GET DRAFT WARNI

a.w.o.l.

a.w.o.l.

All 8 U.S. Battles Sunk or Damaged Pearl Harbor Attac

U. S. DESTROYER PORTER SUNK
The 1850-ton American destroyer Porter (above) ha
off Guadalcanal. Commissioned Aug. 27, 1936, she
was commanded by Lieutenant Commander

U. S. CRUISER CHICAG SUNK IN SOLOMONS;

6 SHIP SURVIVORS BROUGHT TO PHILA.

13 Rebel Alsatians Executed by Nazis

a.w.o.l.

4 British Subs Sink

are you "absent without official leave"?

850 Lost;

Lexington Sunk,

Japs Capture Manila And Cavite Navy Base U. S. Troops Fight On

absenteeism . . . AN AID TO THE ENEMY

w.o.l.

Draft Board T To Reclassify Job Absentees as 1-

HEAVY CASUALTIE CITED
Reveal Tanks by D

U.S. Loses Two Planes

THREE

5 Mi

DRAFT BOARD HERE TO RE-CLASSIFY ABSENTEES 1-A

Bases;

lay 1,360,882

U. S. Troo In Tu

Memor. At Guada.

Lesson for War Worker

Marine Sees Comrade Fall for Lack of Plane

Rommel Drive May

Two Who Lost 5 Sons In Battle Ask Labor For More Ships, Planes

The Waterloo, Ia., parents who gave their count
sons observed their 29th wedding anniversary
asking war workers to build more pla

Japan's Planes Bomb Manila and Hawaii; Attack

850 Lost as U-Boats Sink 2 Troop Laden

## Serious Headlines Bring Us Heavy Responsibilities In Our War Jobs

Never has there been a time when the daily headlines have portrayed events of such world-wide importance—never a time when headlines meant so much to us civilians in our daily occupations. Every man lost must be replaced from civilian life, every ship damaged must be repaired, every ship sunk must be replaced. Guns, planes and tanks—these too are expendable and we civilians must provide the replacements—on time.

Our is a great responsibility and it is a tribute to Americans that these responsibilities are faced so universally and so well. Ours is not a glamourous task. It is a task of long hours, hard work, new things to learn, always still another hard job waiting ahead of us.

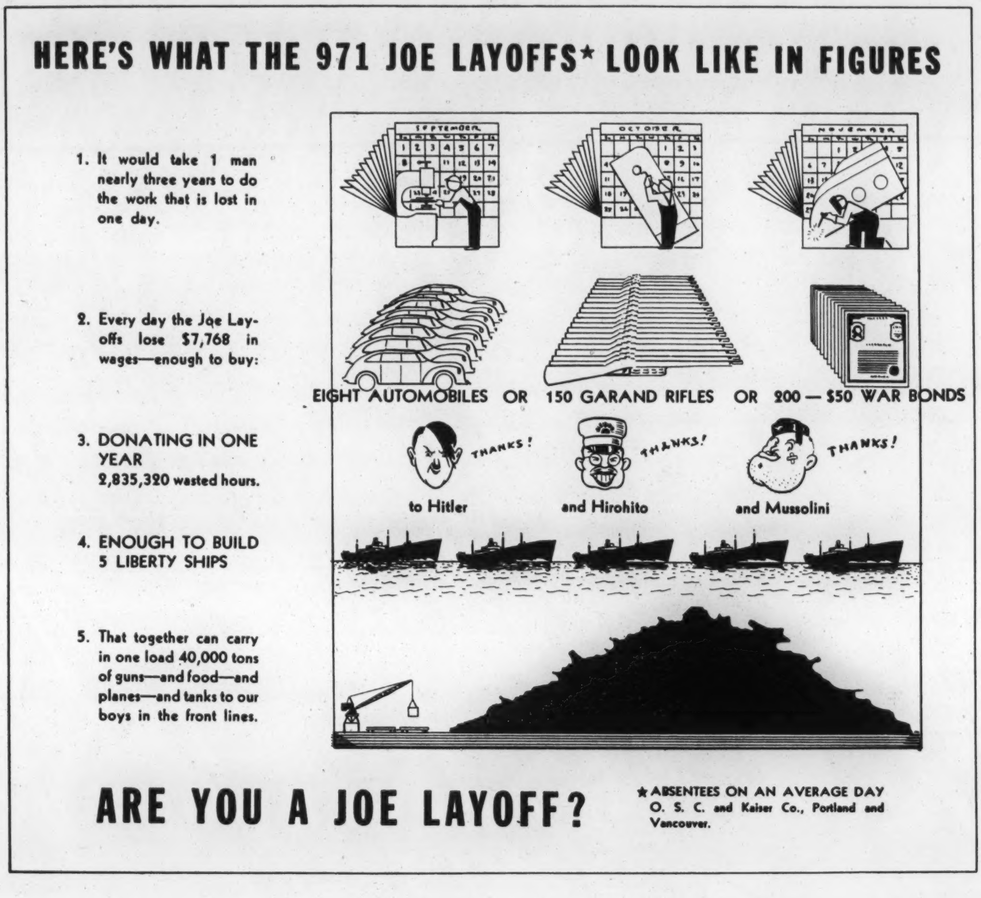
War is not glamourous either. In war the hours are long and the tasks are harder. On every hand there is agonizing discomfort, pain and death.

The many, many conscientious employees who do their best, who stay on the job, who do their duty with sturdy pride—these are the good soldiers of industry. The others—yes, there are a few who do not see the full meaning of Americanism—these are the ones who think America is out of step. These are not the good soldiers.

**The Statistical Approach**

To impress employees with the magnitude of the problems in their own plants or departments, several companies publish periodical statistics of absences. The "Employees' Magazine" of the Union Pacific Coal Company, in its February 1943 issue, published weekly figures showing the number of absentees each week, the total man-days of absence each month, and the percent of absence to potential man-days each month. The last figures were shown for different districts as well as for the company as a whole.

"Fiberglas Yarns," of the Owens-Corning Fiberglas Corporation, each month gives the number of employees, the number of man-hours worked, the number of man-hours lost, and the percentage of hours lost to hours worked for the 15 departments having the highest percentage of man-hours lost to man-hours worked for the preceding four-week period.



HERE'S WHAT THE 971 JOE LAYOFFS* LOOK LIKE IN FIGURES

1. It would take 1 man nearly three years to do the work that is lost in one day.
2. Every day the Joe Layoffs lose $7,768 in wages—enough to buy:
3. DONATING IN ONE YEAR 2,835,320 wasted hours.
4. ENOUGH TO BUILD 5 LIBERTY SHIPS
5. That together can carry in one load 40,000 tons of guns—and food—and planes—and tanks to our boys in the front lines.

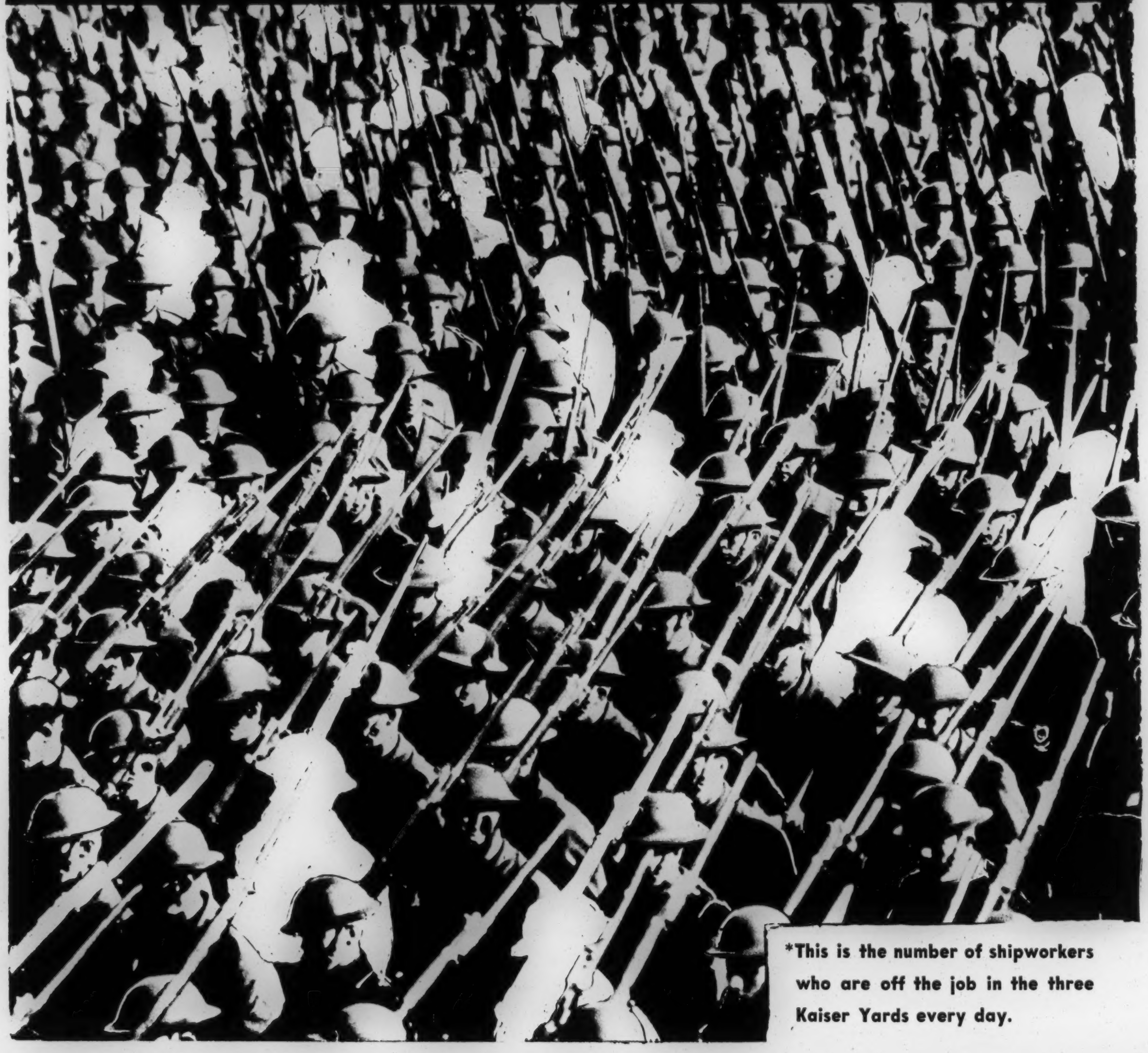
ARE YOU A JOE LAYOFF?

*ABSENTEES ON AN AVERAGE DAY O. S. C. and Kaiser Co., Portland and Vancouver.

Kaiser Company, Inc.

# This would be a hell of an army...

## if one out of ten soldiers was A.W.O.L. every day*



***This is the number of shipworkers who are off the job in the three Kaiser Yards every day.**

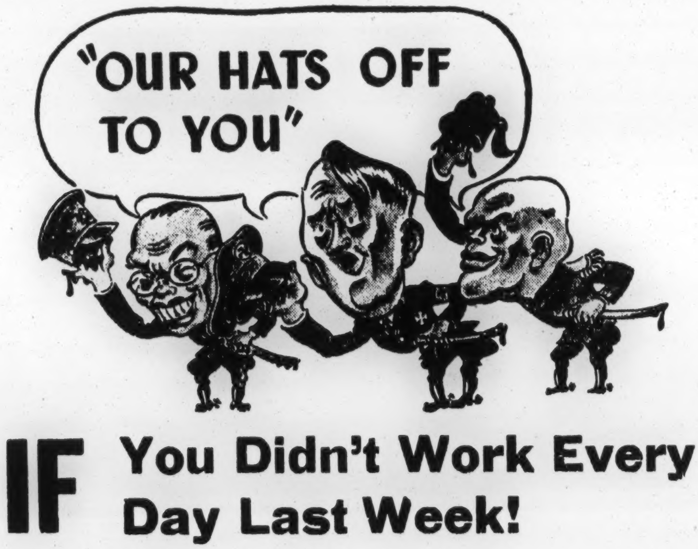
The Kaiser Company, Inc., uses pictorial statistical presentations in the "Bo's'n's Whistle" to show the seriousness of absenteeism in its shipyards. The pictorial table reproduced on page 9 shows what the yard's average daily absence rate means in wasted hours, unbuilt ships, and unearned wages. On page 10 the back cover of the February 18, 1943, issue of the same magazine illustrates what Kaiser's absenteeism record would mean in the Army.

### Cartoons

Among the advantages of cartoons are two that stand out prominently - they attract the eye of the reader and they are remembered. The worker who has gone hunting, the worker who finds it just too nice a day to go to work, the soldier at the front asking "Who's Holdin' Up My Supplies," all appear in cartoons in employee magazines, as do the Axis chiefs thanking the absent worker, as in the cartoon below, taken from the February 19, 1943, issue of "The Spinnet," of Dyersburg Cotton Products, Inc.

## THE ANNUAL REPORT TO EMPLOYEES

The annual report offers an opportunity for the president of a company to stress the seriousness of the absentee problem. Eugene G. Grace, president of the Bethlehem Steel Company, in his annual report for the year ended December 31, 1942, to employees and stockholders, discusses absenteeism and its threat to war production. He sees a parallel in an absentee worker and a soldier who fails to report at his post without just cause, and points out that while in battle the soldier is branded as a deserter if he is A.W.O.L., the man who fails to show up at the production post is not subject to discipline. The absentees, he adds, are letting down other Americans who are staking their lives for his continued freedom.


"OUR HATS OFF TO YOU"
IF You Didn't Work Every Day Last Week!

"The Spinnet," February 19, 1943
Dyersburg Cotton Products, Inc.

Many of Bethlehem's war production committees place absenteeism high on their list of day-to-day problems, and men and women who take time off unnecessarily are seriously hindering maximum production, the report said, adding:

> "We are in this war to the finish. Surely the man who without sufficient reason fails to report to his job on time and in good condition has not fought his share of the fight. He has not fought at all. He is letting others carry the load."

## THE WAR BOOKLET

An occasional special booklet describing a company's and employees' contribution to the war includes consideration of the absentee problem. Outstanding among these is Pratt & Whitney's "Backgrounds." As the member of the P & W War Production Drive committee in charge of absentee questions, the general superintendent of the machinery company writes in the booklet:

> "In any large group of Americans, there is a minority of short-sighted individuals who only slowly learn the relationship of their own efforts to the welfare of their joint cause. We believe that no one at Pratt & Whitney would willingly try to sabotage America's work to win the war. Yet unprecedented wealth - the fat rewards of a full work week - produces some strange results, and creates a problem for the P & W subcommittee on Absenteeism.
>
> "Sickness, deaths in the family, marriages, and other honest reasons . . . these, of course, are legitimate excuses for absence, and are accepted as such. Our quarrel is with the payday-rich worker who is ready to forget, for the time being, that building fighting strength - not a bulging wallet - is the real point of his job.
>
> "Willful absenteeism is a blot of shame on the Pratt Whitney escutcheon. . . created by few . . . worn by us all.
>
> "Enough said."

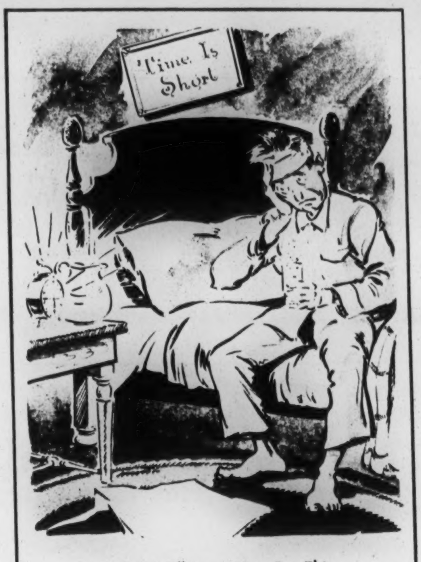
The effective illustrations to this appeal have been grouped on page 13.

## POSTERS, BILLBOARDS, AND PLANT DECORATIONS

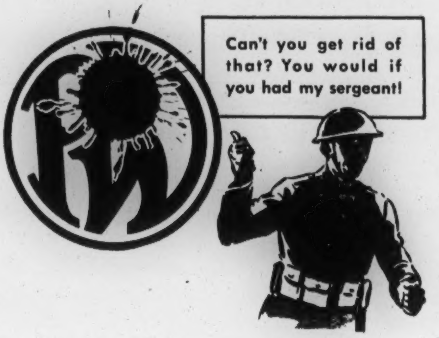
Posters, billboards, and plant decorations do not permit the workers to forget that time taken from their jobs is gone forever. The worker entering the plant yard of Nordberg

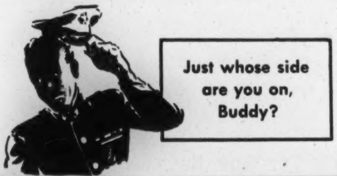
# ABSENTEEISM

## *One Blot of Shame*

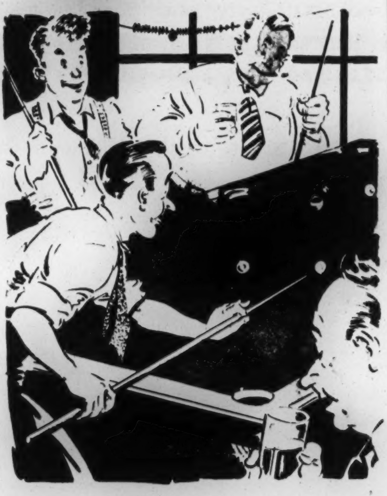

Time Is Short

Musso Will Love You For This

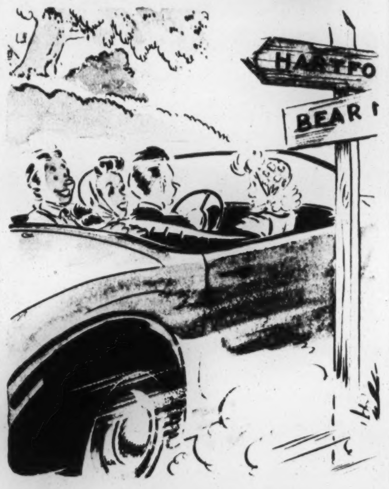

Can't you get rid of that? You would if you had my sergeant!


Just whose side are you on, Buddy?

Was this going on while I was at Midway!



Make Tojo So Ver-r-ry Hoppy


HARTFO
BEAR

Hitler Thinks This Is Swell

*Pratt & Whitney ( Division Niles-Bement-Pond Company )* "BACKGROUNDS"

Manufacturing Co., of Milwaukee, is greeted by figures of Hitler, Tojo, and Mussolini holding a board showing the number of absentee hours for the day in the following manner:

**640**

Nordberg Absentee Hours
Worked for Us TODAY

Thank you.
Adolph, Tojo, and Benito

A WEEK AGO . . . . 944 Hours

Outside the main entrance to the Fairfield Steel Works of the Tennessee Coal, Iron and Railroad Company is a large sign with the following inscription under a figure of Uncle Sam:

"I need you on the job
every working day.
War-Time is no time for
idle machines or idle men."

To combat absenteeism in shipyards doing work for the Navy Department, the Navy has launched a campaign in the form of a series of colorful, striking posters to be distributed twice each month to their shipyards. The theme for the initial series is an adaptation of the Navy slogan - "Don't Give Up the Ship" modified to "Don't Slow Up the Ship."

Posters and slogans are posted at every possible place in the plant of Tube-Turns, Incorporated. Among the slogans made into posters are:

"The Day You Missed Work . . .
Fellow Americans Were Dying
for you
On the Battlefields."

"The Missing Worker -
An Idle Machine are
'Defeats'
In the battle of Production."

"This is War
An Absent Worker is a Deserter."

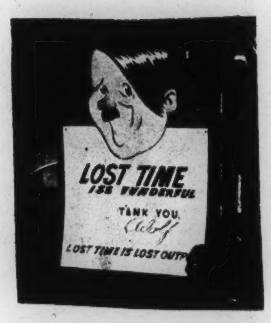
At the Pittsfield Works of the General Electric Company, machines idle because the worker in charge is absent are marked with the card of thanks from Hitler shown at the bottom of this page.

## ATTENDANCE SCOREBOARDS

Charts are a daily reminder that "absence makes the war grow longer." Lyon Metal Products, Inc., on the chart reproduced on page 16, shows each day the number of employees in the plant absent the previous day. Electrolux Corporation uses the department attendance chart also shown on page 16. It records daily and monthly attendance percentages. Every department in Tube-Turns, Incorporated, knows where it stands on the absentee problem by use of the chart also shown on the same page. It compares the weekly and monthly attendance of the three shifts in the department. Directly below this is the attendance scoreboard used in the yard at the Harrison works of the Worthington Pump and Machinery Corporation. It compares the attendance record of the four departments.

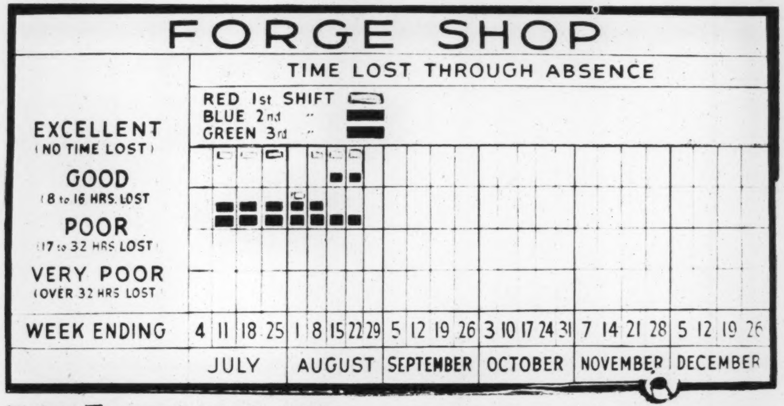
At the Bridgeport Works of the Remington Arms Company, Inc., department and attendance boards are used to record individual employee's attendance records. The chart lists the name of each employee in the department. By means of colored pins, employees who maintain a perfect attendance record are recognized. A white pin indicates present, a black pin absent with permission, and a red pin "A.W.O.L.". The attendance board carries the slogan:

This is YOUR Front
Be on the Job Every Day
A Day Lost is a Day Retreat

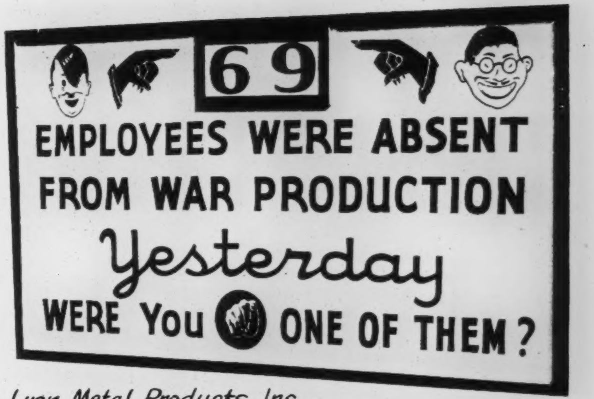


General Electric Company

# ATTENDANCE SCORE BOARDS


FORGE SHOP
TIME LOST THROUGH ABSENCE
RED 1st SHIFT
BLUE 2nd "
GREEN 3rd "
EXCELLENT (NO TIME LOST)
GOOD (8 to 16 HRS. LOST)
POOR (17 to 32 HRS LOST)
VERY POOR (OVER 32 HRS LOST)
WEEK ENDING 4 11 18 25 1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER

Tube-Turns, Incorporated


69
EMPLOYEES WERE ABSENT
FROM WAR PRODUCTION
Yesterday
WERE You ONE OF THEM?

Lyon Metal Products, Inc.

WE'RE CARRYING ON!
ATTENDANCE
FOUNDRY
MACHINE
WELDING
ERECTING
?
?
?
?
FIGURES ARE NUMBER OF SHIFTS LOST LAST WEEK BY ABSENTEES

Worthington Pump &
Machinery Corporation

100% ATTENDANCE IN YOUR DEP'T.
98
95%
90
85%
75%
70
65%
60
55%
50
MON.
TUES.
WED.
THURS.
FRI.
SAT.
PERCENTAGE THIS MONTH
JAN.
FEB.
MAR.

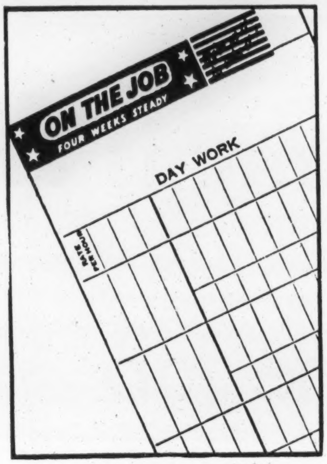
Electrolux Corporation

## TIMECARD STICKERS AND A.W.O.L. CARDS

Among the other visual reminders that play their part in the concerted drive against absenteeism are special timecards for absentee employees and timecard stickers.

The Bell Aircraft Corporation labels "A.W.O.L." workers - that is, workers who fail to obtain permission to be absent. An "A.W.O.L." card replaces their usual timecard, and approval from the foreman or department head is required before the timecard can be returned and work resumed. Mr. Lawrence D. Bell, company president, in a message posted at the company's plants announcing the plan, said that "absentees in our plant must be cut to a minimum." The plan also stipulates that workers desiring time off must get permission from their foreman or department head at least one day in advance, those absent must telephone explaining their absence, and those sick must bring a doctor's certificate when they return to work.

At Remington Arms Company, Inc., the War Production Drive Steering Committee has designed a patriotic sticker which is placed on the timecard of every employee who maintains a perfect attendance of four consecutive weeks. The sticker, shown below, is designed in red, white, and blue and reads "On the job - four weeks steady" and carries the Remington slogan "We're in it to Win it." Each week time clerks paste stickers on the cards or remove them when an employee has been absent.



Remington Arms Company, Inc.
Timecard Attendance Sticker

## CONTESTS

Contests, too, are used to impress upon employees the importance of attendance. These include various interest-arousing contests and interdepartmental or interplant attendance contests. To get new ideas for attendance posters and to get employees to focus their attention on the absentee problem, prizes are offered for original posters by a number of companies. To tap employees' ideas on how to reduce absence, The Goodyear Tire & Rubber Company offered a $25 War Bond for the best idea for reducing absenteeism and another $25

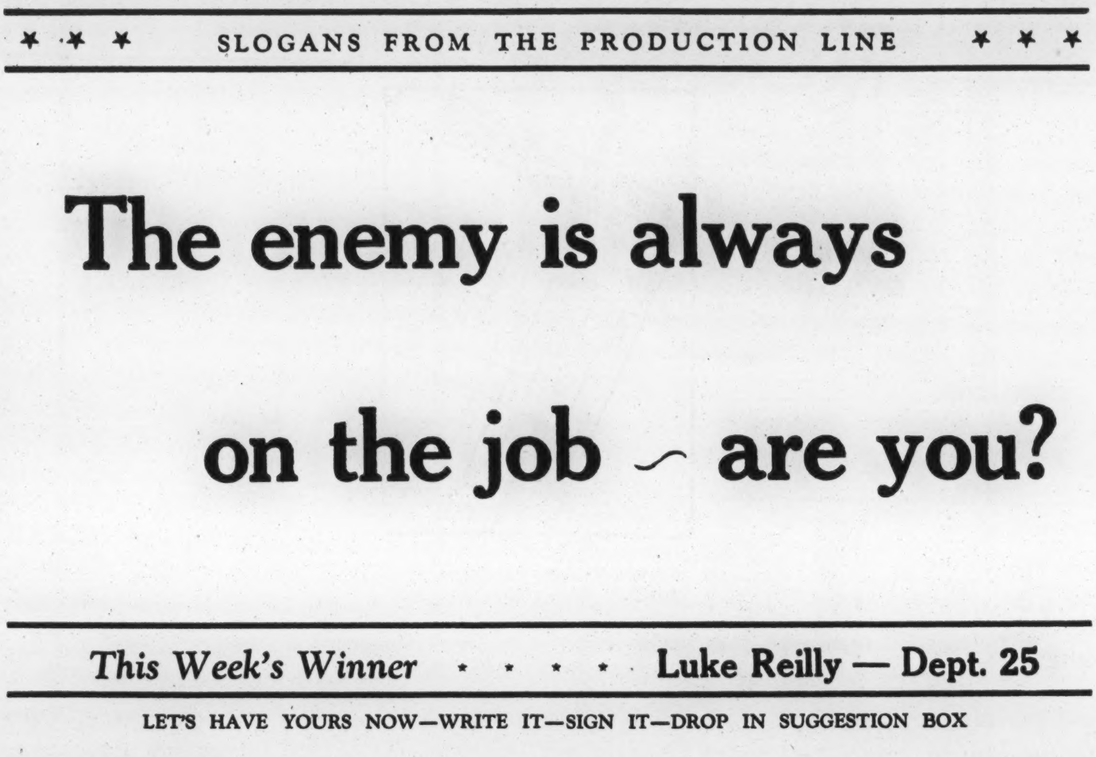
War Bond for the best slogan. Ten additional $5 War Stamp awards and 20 awards of $1 each in War Stamps were given.

Hyatt Bearings Division of General Motors Corporation offers a weekly prize of $5 for the best slogan. This slogan is printed on a colored card (7"x10½") in the manner shown below and is posted on all bulletin boards. The name of the author appears on the card as does an appeal for more slogans. The committee judging the slogans consists of the personnel director, the advertising manager, and the director of the Victory section.

The Hyatt slogan contest, although more than eight months old, is reported at this writing as still bringing in about 100 slogans a month from production-line employees. Some of the winning slogans appear below:

You can't spell Victory with an absent-"T"

If you can't go over
Then come across."



* * * SLOGANS FROM THE PRODUCTION LINE * * *

**The enemy is always**

**on the job — are you?**

*This Week's Winner* . . . . **Luke Reilly — Dept. 25**

LET'S HAVE YOURS NOW—WRITE IT—SIGN IT—DROP IN SUGGESTION BOX

Because of the originality and appeal of the first slogan quoted it was made into a special poster in color and was used with the photograph of the author, a veteran of World War I employed in the grinding department, as the cover for the March 1943 edition of GM Folks -- the employee picture magazine distributed to all General Motors employees. This is reproduced as the frontispiece of this report. So many requests have come in for permission to use this poster that Hyatt has had extra posters printed in color for distribution among other war production plants.

Announcing that nothing helps our enemies more than absence from work, the Norton Company is awarding banners each month to departments with the highest attendance record. Charts showing the attendance records of all departments are posted in each department monthly. The attendance records are computed by the pay-roll department as a percentage of hours of absence to actual work hours. In this way every department, large or small, stands on an equal footing. Any department entitled to fly the flag of honor three times will be awarded a flag as a permanent possession.

Each week in one area of the Bridgeport Works of the Remington Arms Company, Inc., each department is rated on the percentage of its members with perfect attendance, and the standings are posted. The department with the best cumulative record at the end of each month is awarded a scroll. At The New Britain Machine Co. the department with the worst absentee record of the week is awarded a Hitler plaque inscribed with a swastika.

## STUNTS

Various stunts have been devised to convince workers that staying away from their jobs creates serious handicaps in meeting production goals. California Shipbuilding Corporation, for example, is crediting all man-hours lost by workers not on the job toward the building of a phantom ship, the S. S. Absentee, to be turned over to the Axis on completion. The keel was laid in the plant yard in December 1942 with an appropriate ceremony. Hitler, Hirohito, and Mussolini were all there in costume, as was Mr. Lost Man-Hours, president of the Absentee Workers Association. All delivered speeches. Hitler said: "Our association has 2,000 men laying off the job every day. This has resulted in 4,800,000 man-hours lost through absenteeism in the 14 months the yard has been building ships. That's the equivalent of not building 12 freighters for the United States, and is the same thing as providing the Axis with the same amount of merchant tonnage." Mussolini invited members to join their gang. He said: "Just lay off the job a day or two and you become a paid-up member in good standing."

A door-prize plan gives workers at RCA-Victor Manufacturing Company chances at weekly prizes. Holders of clock numbers turned up on the wheel of fortune are the winners -- provided they have been to work on time every day during the week. The grand weekly prize is a $50 War Bond.

## RICKENBACKER SQUADRONS

As a result of a challenge laid down by Captain Eddie Rickenbacker. as he related the story of his rescue after 30-days adrift in the Pacific and as he told of the hardships experienced by American fighters in the Pacific war area, workers in one of the departments of Delco Remy Division of General Motors Corporation organized a "Rickenbacker Squadron." Its purpose is to improve the quality and quantity of their war-production work by being on the job every day. The initial membership consisted of the 92 members in one department. They are distributing membership cards engraved with the Rickenbacker slogan, "My Hat's in the Ring," to all employees. At the end of 30 days, buttons bearing the same slogan will be given to all employees who have perfect attendance records. In addition, each department with 100 percent attendance at the end of 30 days will receive a large banner as recognition of this achievement.

Detroit toll operators of the Michigan Bell Telephone Company have adopted Captain Rickenbacker's "Hat in the Ring" idea. Operators who have fulfilled the requirement of 21 days without any absence have their names posted on bulletin boards as members of the "Hat in the Ring Squadron." Once they become a member, they must keep their record clean of any absence. One day off means the removal of their names and they must start from scratch again.

## THE INDIVIDUAL APPROACH

The effectiveness of mass appeals may be heightened by contact with individual workers. A good supervisor can make a man feel his individual importance to the plant's war production with the result that he does not lose interest in his work or stay at home without good reason. The chronic absentee may be interviewed by his foreman or by a committee of plant workers with sons in the service. At Stewart-Warner Corporation plants employees are asked to sign cards giving reasons for absences and to talk things over with a member of the personnel department.

An absenteeism committee, on which employees are represented, of International Resistance Company and Connector Corporation asked each employee to fill out the questionnaire shown on the following page and give anonymously the reasons for their past absences - necessary and unnecessary - and to contribute their ideas on how to reduce absenteeism. The questionnaire was enclosed with the employee magazine, and the following full-page appeal was made to workers to cooperate:

**Listen, Americans!**

YOU MEN AND WOMEN OF IRC AND CC!

"We are not going to beat around the bush. We are not going to pull our punches. We are going to dish it out! Can YOU take it?

"There is a war.

"Which do you think helps more . . . to shed tears over one of our boys killed at the front because you were out having A GOOD TIME and did not make the equipment that he needed to fight with OR to stick to your job day in and day out -- and at night if necessary -- even if you are tired or bored -- and make the equipment he must have to save his life? Don't answer.

## *Please fill out this absenteeism questionnaire and put in ↘CONTACT↙ boxes on or before*
## THURSDAY, APRIL 8th

---

### WE DON'T WANT TO KNOW WHO YOU ARE —DON'T SIGN YOUR NAME

By answering this simple questionnaire TRUTHFULLY you will be aiding the war effort.

What were your reasons for necessary absence (such as illness, death in the family, etc.)?

________________________________________

________________________________________

________________________________________

Give reasons for absence other than the above (such as taking the day off because you were tired, going to the shore with your boy friend in the Service, etc., or other reasons).

________________________________________

________________________________________

________________________________________

Here is your chance to contribute your ideas on this subject to the war effort. You are right in the middle of it. You actually see and know what is happening better than anyone else. You can believe it that your worthwhile ideas and suggestions will be gratefully received and put into effect at once wherever practicable. Come on, IRCC-ites—Give!

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

Absenteeism Sub-Committee

"If you are one of those who fails to show up for work because you have made ENOUGH MONEY anyhow, or because you are A LITTLE TIRED or because you are out with a girl friend HAVING A WONDERFUL TIME or because you are a little fuzzy from that one extra beer, what does your CONSCIENCE say to you? Don't answer...

"We dare YOU to face YOURSELF, YOU who are ABSENT when you should be at work. We would like to see your faces, look inside of your minds and your hearts when you put the above questions to yourself. Unnecessary absence from your work in a war plant is an unpatriotic vice which YOU alone can stop.

"Please fill out absenteeism questionnaire and put in "CONTACT" boxes on or before Thursday, April 8th."

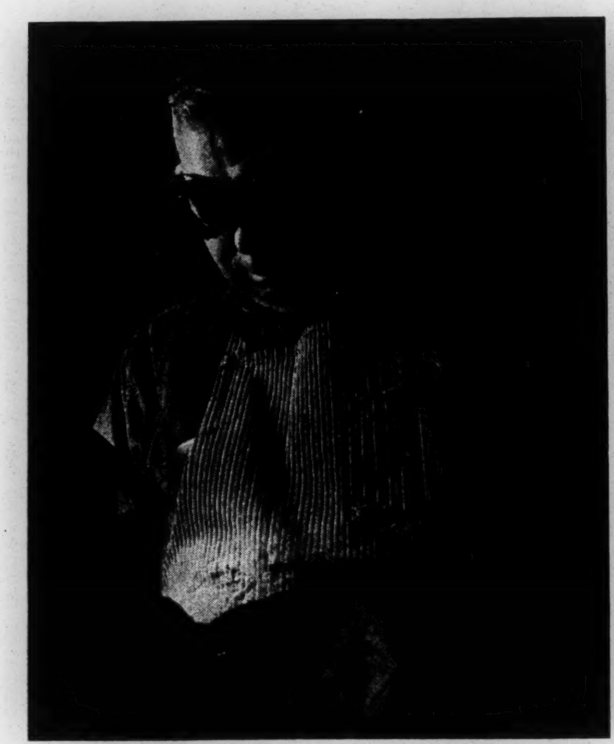
The Grumman Aircraft Engineering Corporation has cut its absenteeism to between 2 and 4 percent partly by a system of personal service for workers. A green truck, laden with every sort of equipment, from blow torches to ladders, for making home repairs is at the service of workers. Any emergency that might keep a man or woman away from work is taken care of by the green truck. If a worker telephones that he is unable to work that day because his water pipes have frozen and burst and his basement is flooded, he is told to come to work and not to worry. When he gets home, the cellar is pumped out and the pipes are repaired; if a radiator has burst it will be welded and a fire will be burning in the furnace. If a woman worker suddenly remembers she has left her electric iron turned on, the little green truck will go to her home and turn it off. If a worker can't start his car, the green truck will.

In addition the company realizes that many women workers have to market for their families and that in these days of shortages there may be little or no meat to buy at the end of the day. Accordingly, all women workers are given every other Saturday off. Day nurseries are another part of the program. Two large nurseries are open 12 hours a day. Children of workers are cared for in the approved nursery school manner for 50 cents a day. Trained teachers supervise his play. If he is ill, he has the services of a doctor. Each child has his own cot and receives five meals a day. The 50-cent charge covers perhaps the cost of the food. The company is planning to establishing several more nurseries.

At times "stunts" are used to impress the absent worker with the seriousness of his lost time. Douglas Aircraft Company, Inc. sends registered letters to absent employees showing cartoons of American soldiers with their hands tied behind their backs in the presence of beaming Japanese. At the Minnequa plant of The Colorado Fuel and Iron Corporation employees who have incurred absences receive a Reichsbank note for a hundertausend Marks with their regular pay checks. The reverse side of the German money carries an indictment of absenteeism written by the War Production Drive committee.

In some cases personal credit is given to workers with good attendance records. The Philadelphia Works of the General Electric Company uses employee magazine publicity similar to that taken from the February 26, 1943, issue of "Philadelphia Work News", shown on the following page, to praise the conscientious worker. The United Electric Workers (C.I.O.)

# Veterans Have No Time For Absenteeism



ANDY COCCIA—Air Circuit Breaker Division

## ACB Men Have Personal Reasons For Working Hard Without Taking Time Off

General Electric veterans are today setting splendid examples for newer people in the ways of tackling our big war job. Among them are two men of the Air Circuit Breaker Division. These men are steady workers, they do accurate and high quality work and they know the importance of constantly being on the job.

Andy Coccia has two mighty good reasons for working hard and without taking time off for personal reasons. One son, Patrick, is in the United States Coast Guard and another son, Frank is in the Army. Andy doesn't know where Frank is today—somewhere on foreign soil, perhaps in direct contact with the enemy. Andy Coccia came to work for General Electric back in 1929 and has been here ever since. He knows what it means to work, he went through the depression years, and today he is fully aware of the vital necessity of producing more and more equipment for our Service men. Andy is a grinder and a good one. He will go right on working because his two boys need his help.

William Minter operates a radial drillpress in the Air Circuit Break-

WILLIAM MINTER—Air Circuit Breaker Division

### AUTOMATIC SCREW MACHINE SECTION, 8-4

*Harry W. Balleisen*

### DEVICE DIVISION, 8-5

*Anne Barry*

### AERONAUTICAL DEPT., DARBY

### TOOL & DIE DEPT., 10-6

*Harry Bantle. John Mead*

of Cleveland have devised a gold-plated lapel pin, "100% Production Soldier" for workers with perfect attendance records since Pearl Harbor.

In one of the du Pont plants workers signed an "On the Job Every Day" pledge which included a promise to notify their foreman in advance of an absence, if possible. At the Niagara Falls plant of The Carborundum Company, employees in one of the departments signed the following pledge in commemoration of Pearl Harbor:

> "We the undersigned do pledge
> ourselves to be on the job
> every day. No more lost
> time for the duration."

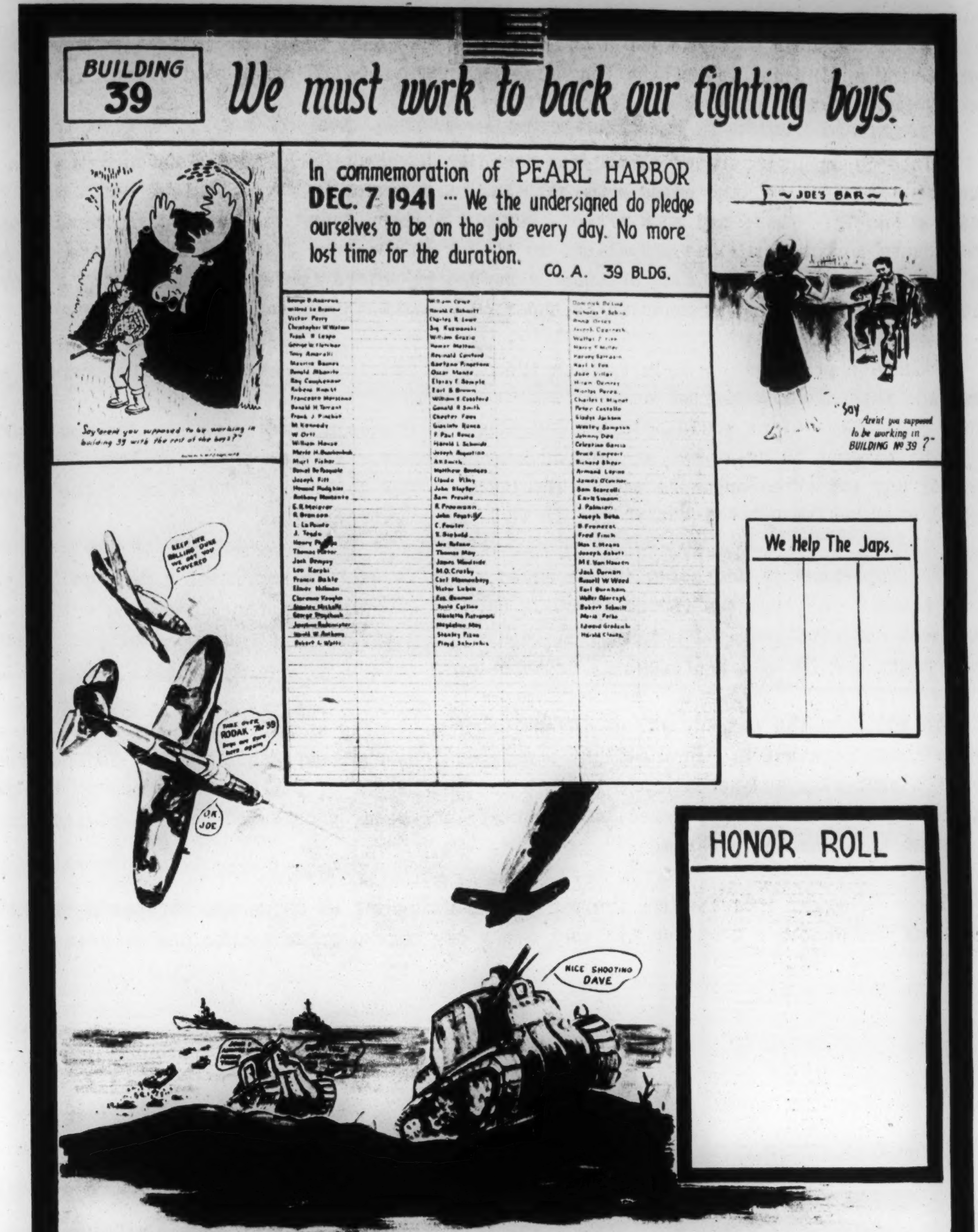
Using this signed pledge as a focal point, three of the men in the department worked out the effective display poster shown on page 25. In addition to the pledge carrying the signatures of the men, the display shows an honor roll of those with perfect attendance records, space for the names of absentees under the heading "We Helped the Japs," and two absentee posters.

## A SPECIAL DRIVE

Some companies are conducting plant-wide attendance drives. The Bridgeport Works of the Remington Arms Company, Inc., has undertaken an educational campaign aimed at reducing all forms of absenteeism, tardiness, and avoidable work pauses under the direction of the plant's War Production Drive control steering committee. A goal for the "Stay on the Job" drive was set at a 50 percent reduction in absenteeism within six months. The steering committee prepared posters and articles for the employee paper, and made short talks in all areas of the plant acquainting all employees with the purpose of the drive and calling upon each employee to "examine his own past absences and cut them in half." The chairman of the committee pointed out to every employee the importance of his individual job saying:

> "A manufacturing operation, of necessity, is planned around a certain number of jobs and people. Each is equally essential, for the group functions as a team and one absent member, no matter what his place, imposes a heavier burden and reduced effectiveness on the others."

Area committees were selected to improve the record of their own areas. Some appointed subcommittees to talk to employees who are repeatedly absent. The subcommittees stress not only the necessity for production for the men on the fighting front, but the detriment to the departmental record caused by absenteeism. In some departments foremen are posting on bulletin boards the names of employees with perfect attendance records for one month or more. As the campaign progresses new promotional methods will be used.



BUILDING 39
We must work to back our fighting boys.
"Say, aren't you supposed to be working in building 39 with the rest of the boys?"
~ JOE'S BAR ~
"Say Aren't you supposed to be working in BUILDING No 39?"
KEEP HER ROLLING DUKE WE GOT YOU COVERED
TAKE OVER RODAK — The 39 boys are sure here again
O.K. JOE
NICE SHOOTING DAVE
We Help The Japs.
HONOR ROLL
POSTER BY ✧ GEORGE ANDREWS ✧ WILLIAM COWE ✧ DOMINICK DELUCA.....

In commemoration of PEARL HARBOR **DEC. 7 1941** ... We the undersigned do pledge ourselves to be on the job every day. No more lost time for the duration.

CO. A. 39 BLDG.

This Is What the Boys in Bldg. 39 Are Doing

"Carborundum News," January 1943

Since sickness accounts for about half the time out, the plant medical department is conducting an intensified prevention drive against colds and other easily contracted ailments that cut into working hours and efficiency.

Tube-Turns Incorporated stated its campaign to combat absenteeism through the use of posters, at the same time using a payroll insert to supplement the posters which were changed weekly. These had some effect, but the company found the posters in themselves inadequate to cope with the situation, so it set up absentee charts over the time clocks in each department and kept an attendance record by shifts for each department. A reproduction of this absence scoreboard is shown on page 16.

Moderate progress was made through the use of patriotic appeals, but the company soon realized this alone would not do the job. Accordingly it initiated a bonus system whereby every man in the plant would secure a 10% bonus on his salary if he worked for two weeks straight without being absent or late or leaving early. No exceptions for bona fide illness or any other reasons were made. The bonus system contributed somewhat to the lessening of absenteeism but did not reduce it to a satisfactory level.

To supplement it another plan was added which is getting encouraging results in its early stages. An absentee record is being kept of every man in the plant, and employees have been notified that this record will be used as a basis for permanent employment with the company and for all preferential treatment.

In addition the company has an investigator who calls at the homes of men who are absent without permission. In the plant newspaper continual reference is made to the problem of absenteeism and appeals are made to the patriotism of employees to stay on the job. Several rallies are being planned, and contests are being considered for the coming year to combat the absentee program.

These programs indicate how the various methods used to focus the attention of the worker on the Nation's need for his work every day may be brought into one program.

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U. S. DEPARTMENT OF LABOR

WOMEN'S BUREAU

| *To—* | | *From—* |
|---|---|---|
| ✓ | ~~**Anderson.**~~ | |
| ✓ | ~~**Nienburg.**~~ | |
| | **Larrabee.** | |
| | **Benham.** | |
| | **Dern.** | |
| | **Erickson.** | |
| | **Hyde.** | |
| ✓ | ~~**Manning.**~~ | |
| | **Mettert.** | |
| | **Pidgeon.** | |
| | **Robinson.** | |
| | **Smith, F.** | |
| ✓ | ~~**Spring.**~~ | |
| ✓ | ~~**Stitt.**~~ | |
| | **Files.** | |

*Re Attached Please—*

Approve ____________
Comment ____________
Note ____________
Note and return ____________
Reply ____________
Draft of reply ____________
Signature ____________
Would like to discuss ____________
File ____________

Date ____________

Note:

GPO 16—24460

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
WASHINGTON

March 7, 1943
4317 Glendale
Detroit, Mich

To: Miss Mary Anderson, Director
Women's Bureau, Washington

WOMEN'S BUREAU
MAR 10 1943
DEPARTMENT OF LABOR

From: Kathleen Lowrie
Area Representative, Michigan

Subject: General Report

Absenteeism: On 2-24-43 I talked with Mr Clark, Director WMC about the poor publicity job which is being done on work absences, the emphasis on failure of employees to take the war seriously, and the lack of information on causes plant and personal, and remedies. He had just appointed a committee on absenteeism but was holding off on its first meeting until the W.L.B. inquiry had been submitted to him. If the committee includes representatives of management, labor and of community organizations which could do something about the social causes, it would be a good approach to ~~reaching~~ getting proper action.

On 2-26-43 I talked with Mrs Roosevelt, newly appointed member of the Lbor Division of W.P.B. Her first assignment was to make a spot check on absenteeism by talking with personnel men and with representatives of labor management committees. She had been told that failure to appreciate the war situation was the chief cause. We talked about the various causes and remedies. She is planning to secure help in Washington (Wednesday 10th) for the child care program here. She was very much interested in and appreciative of the standards which the Women's Bureau has worked out, and we had about a three hour conference. Her other assignment at the moment is to see that plants needing priority to get needed plumbing facilities, get them. She asked me to be on an advisory committee she is setting up, which meets first Mar 8.

Committee
mtg
in
Nicely
[illegible]
3/9/43

On 2-26-43 I talked with Mr Cushman, deputy director W.M.C who has been made chairman of their committee on absenteeism. He plans to make a study, but this hasnot been started. I asked him what he thot of the Commission' asking employers to keep records in a uniform prescribed way, just as a starter. He thot this was a good idea. When it becomes necessary to move labor from one plant to another, the plants with high rates will be asked to give up a percentage of their workers.

The Safety Council and the society of Engineers are also making studies of absence.

On 3-1-43 Miss Losier from Mr Wisharts office (Research Div., U.A.W.A.) asked me to help her work out a questionaire to go to union women on causes of work absences. I had talked with them on 2-22-43 as it seemed that the individual worker was not being reached in the other plans afoot, and that this was important,(realizing of course that a personal interview is the proper way),but ~~when~~ they said they have been getting a good deal of information on a number of questions by sending out cards or letters with return postage and address, They are prefaced by a very well worded explanation of the importance of getting facts, and no signature is required. If the Board approves sending them they will send 5000. They get about 25% back. This study would not preclude one by us. It would give them some information for present use.

On 3-7-43 I talked with Mr Court labor economist at General Motors. He is working on absenteeism health and safety, and has been doing some speaking to management groups. He figures absence rate by using total number on payroll, total scheduled hours for the period, and hours lost. This overstates absenteeism but he states their turnover is negligible. We discussed managements problems in cutting down on the rate,-opportunity for training for upgrading, use of women at their highest skill, development of women as forewomen, a good counselling service, a nutritious meal at the plant, sanitary facilities etc. I asked him what he thot of a unified method of figuring absence rate, and listing causes. He said some moves are being made in that direction.

The Automotive Council for War Production has just appointed a committee on absenteeism. Mr Wilson of G.M. is chairman. This happened on the 6th. I imagine since Mr Court is his right hand man that he will have a good deal to do with the policies of this committee.

Equal Rights Amendment On receiving your letter about the importance of pressure against it at this time, I called Miss Losier and said you would find it helpful to have a copy of the resolution passed at their convention of women workers. She said the Board is reviewing these resolutions at their meeting in Columbus this week end, but she would try to get that one off to you. I hope you have received it.

Committee on Standards for Women Workers I received the Bureaus suggested Bill on work hours for women, and also the Bill on Wages and Hours. The plan seems to be to start with the hours Bill. So we would appreciate it very much if Miss Stitt would have it annotated for Michigan. If she wants me to return the copy she sent I will, but otherwise we would like to have it presented to the Committee with the understanding we will receive the changes from Miss Stitt later. We plan to have it printed togethr with some of the material from the covering memorandum. The chairman has been contacting the outstate names I had contacted or been advised about in about six cities, before calling a Detroit group together, as the Committee will need to do a good deal of educational work out state since the out states representatives and senators are united and in the majority, and a primarily Detroit committee would not get very far. The Governor has announced that he favors an adjournment of the legislature this month to reassemble January 44. (They usually meet every two years except whencalled into special session. So far this session has been chiefly a financial one, and the Bills he has mentioned changing the administrative set up etc will come up nest year. This would give the Committee about nine months to do educational work. Also we may be able to make it a two way informational service on standards,-from the various industrial sections to the committee chairmen and back.

Recruitment Recruitment is a very serious problem here. One women personnel director Dorothy Kline told me their problem is to know whether they will have any automatic screw machine operators tomorrow. The U.S.E.S. has for some weeks had a recruitment plan. I discussed this with Mr Cushman 2-26-43. Instead of another committee as in Cleveland, they plan to work with women's organizations. They had thot to have tables in the schools at the time Ration Book 2 was issued. And now they thing they may have tables at all super markets, as a quick way of contacting women not now workin in industry. They plan to talk long enough with each women to determine whether she could give part time and in that case ~~she~~ would refer her to civilian industries, or whether she sounded as though she could work full time in war production. There is a good deal of in migration, and many negro women are applying for jobs. At Aeronautical Products Inc. (Miss Kline) they are employing 11% negro women, and 80% of the women applying for jobs are negroes. Negroes form about 8% of the population according to Mrs Bledsoe, negro worker at U.S.E.S. It looks as though there would have to be compulsory recruitment here. But this would be bad unless the community takes more responsibility for services ie., laundry, community cooking, child care centers, transportation, etc.

W.P.B.Advisory Committee Met for the first time this afternoon (3-8-43), At the invitation of Mrs Roosevelt, Labor Standards Division. I moved that we recommend that the W.P.B. issue a statement on the status of present community facilities for women workers, and the needed extensions, in the interest of recruitment,and/of continuity of production, ~~and~~/ to be a spur to the appropriate community agencies. (They collected a huge community chest this Fall, but seem to be earmarking a lot of it for a back log against the needs of the peace.) Also a statement to management on suggested procedures for promoting continuity of work, responsibility for the carrying out of which depends on management.

Nutrition I had a very nice talk with Miss McGuire, chariman of the committee on industrial nutrition of the Council of Defense Health and Welfare. They are working out diets based on the present situation (rationing), which would provide one third of the days nutrition needs, and are selling their ideas quite rapidly. She wanted to ask a number of questions regarding the standards worked out by the Bureau

Child Care Centers The W.P.A. schools are to close April 14 unless the School Board's requests for Lanham Funds goes through. This would make a serious situation here. so far Miss Unruh, in charge of the W.P.A. program, with whom I talked 3-2-43, says they have not been swamped with requests they could not handle, their problem has been to determine the neighborhoods in which there is a real demand, without any more transportation than necessary. She is an excellent person, trained at Merrill Palmer Nursery School. Any pressure the Bureau can exert to see that Detroit receives the Lanham Funds for which it has applied would be an important assistance in a very difficult situation. Miss Unruh is very professional and not at all an alarmist or an exaggerator. And the request which has gone forward, as worked out pretty much under her eye, seems very reasonable. The U.A.W.A. had a meeting for working mothers Friday evening (3-5-43) A W.P.A. representative spoke. They put their weight behind getting the money.

Answered
Nancy
3/9/43

W.M.C. State Committee on Farm Labor I spent 3-4-43 in Lansing. On Jan 30,43, just after receiving the new directive on farm labor from the Bureau, I had talked with Mr Craig, State Director U.S.E.S. and chairman of this committee, about what plans were in the wind for recruiting training and arranging facilities etc for women farm workers He said he did not contemplate calling a meeting until the directive had been clarified as to the duties of the various agencies formerly in the picture. This was the first meeting since Jan 4. It was occupied largely, necessarily, with the new administrative set up as worked out by the Extension Division. Toward the end, since women had not been mentioned, I said I did not sense any feeling of urgency in regard to the need for women workers, but that since it had been said in the meeting that last years crop was not all harvested for lack of labor, in spite of the fact that many more women had worked than before, and since the problem this year is to get out larger crops, I would suggest a committee be set up to begin planning the total program for women workers. Mr Love the director of the new program for the Extension service in Michigan, said the matter of a womans land army was still in the discussion stage. The chairman then said the appointment of a committee on the womans land army would be the next order of business. I had a very nice talk with Mr Love after the meeting. The Extension Service is very approachable to Women's Bureau ideas. He is planning to make one of the women from the Home Economics Division chairman of the Committee, and she is going to get in touch with me. I suppose they should have someone from the Dept of Labor (Mich) Dept of Health, as well as Triple A, Home Economics Dept., Extension Service, and one or two women's organizations, perhaps the A.W.V.S. Please advise

A.W.V.S On receiving the report from the Bureau on the 9 camps operated by the A.W.V.S. in California, I presented the plan to the Metropolitan Detroit Board. They are appointing a committee to inquire into the questions of operation and finance and they might do a good job.

Other contacts I spoke to the Organization of the Democratic Women of Wayne County on Women in War Production. They devoted one of their monthly meetings(1-27) and to the annual meeting of the Consumers League (1-16)I put these in because in one of Miss Mannings memos she asked that interviews be dated, so I realized I should have reported the inter views. Also after Miss Anderson's letter to Mr Montague Clark he wrote me a very cordial letter asking me to come in and discuss women workers problems and I did so 1-30. He said as soon as they have additional space he would like me to have a desk in their office.

I have also had several conta~~c~~ts with the Y.W.C.A. in regard to the center they plan to open on the West side (near Ternstedt Mfg Co., for working women, as I am on that committee. Also with the Jewish Community Center, Miss Segal(2-5) to learn whether they could set up some additional activities for older women, as they have dealt chiefly with young girls in the past. Also some contacts with U.A.W.officials just to keep current on their problems.

Faithfully yours,
Kathleen J. Lowrie
Kathleen J. Lowrie

R521

Absenteeism

# STATEMENT OF SECRETARY OF LABOR PERKINS BEFORE THE HOUSE NAVAL AFFAIRS COMMITTEE WEDNESDAY MORNING, MARCH 10, 1943

The work of this Committee in focusing attention upon the necessity of correcting and preventing absenteeism in the war plants of the country has done a real service. Because of your inquiries labor and employers, as well as Government officers, have been inspired to think more clearly and develop more intensive plans for the prevention of absenteeism. The Department of Labor has been studying this problem along with many other problems of labor productivity for some time, and has become convinced that a great deal of absenteeism can be prevented by correcting some of the causes which contribute to it, as well as by disciplining an occasional person who may be a wilful absentee. We have been working with various industrial plants and with labor in a good many industrial establishments and are convinced that good management, community cooperation and labor cooperation can solve a very large part of the problem. Many of the best-managed plants report to us that they have no problem of absenteeism. Others say their absenteeism is very low. In a few cases it is high.

Industrial accidents and illness account for at least two-thirds of the absenteeism. Work done by the Department of Labor in a limited number of plants, work done by the National Safety Council and other agencies indicates clearly the possibility of preventing 90 percent, at least, of the industrial accidents which cause so much absenteeism. It is estimated that in the last year 250 million man-days of work were lost due to industrial accidents, and relying upon the figures of the U. S. Public Health Service. we estimate that between 250 and 400 million man-days of work were lost through absence due to illness. About one-half of this is minor illness which is clearly preventable.

To sum up the methods of preventing absenteeism, they are as follows:

1. Prevent industrial accidents, which cause a great many absences.

2. Correct the working conditions which cause minor illness and excessive fatigue. Some of these working conditions are:

   Excessively long hours which can be shortened; no regular day of rest; bad ventilation; improper lighting; inadequate heating; no seats or opportunity to change position; excessive lifting and strain; no food facilities, and no plan of adaptation of the industry to the physical strength and needs of women and older workers, etc.; and awkward shifts.

3. Provision of good medical or health supervision to cure, prevent, and shorten illness.

4. Local solution of transportation problems by company and community cooperation. (Transportation problems are estimated to cause about 30 percent of the absences).

5. Secure community cooperation on household problems, marketing, laundry, etc., shopping hours, child-care problems, medical and dental services, organizing help to protect the sleeping time of night workers.

6. Let every plant keep records of absences with the alleged cause in every case.

7. Define absence in the same terms in each department.

8. Develop systematic rules about permitted and excusable absence - such as jury duty, voting, death and illness in the family, personal illness, doctor and dentist attendance, etc.

9. Provide a system of permissions for certain classes of absence planned in advance through the Personnel Office; provide for a personnel officer to follow up on all unexcused absences, discovering private, personal reasons and adjusting when possible. Also by this method isolate and identify the occasional shirker who is absent for frivolous or no reasons.

10. Secure the cooperation of labor and employers in particular plants to (a) overcome the above problems; and (b) to discipline by firing or demotion the occasional shirker.

11. Recognize, praise, and commend the steady attendance and effective work and effort of the vast majority of American workers. If there is a 7 percent absenteeism then have a good word for the 93 percent attendance. Even if absenteeism is 20 percent (in which case there is something wrong in the management, I am sure), have a good word for the 80 percent attendance. There are many heroes and heroines in the industrial working forces of this country who get up before dawn, do the chores or the housework, take the scrap to the community scrap pile and pick up five other workers and drive 40 to 50 miles to work in all weathers, work a 10-hour day, eat a cold lunch,

pick up their fellow riders and eat a quick self-prepared supper when they get home; look after the family affairs, participate in the community life in the very short evening and go to bed. This does not spell hardship, but it spells a steady performance which I think should be recognized. It is something which Americans can congratulate themselves on that they are able to take this kind of dreary repetitive life, and the rebuke to the deliberate absentees will be even stronger if those who are regular in attendance are recognized for the valuable citizens that they are. It must be remembered that the men of military age, 18 to 45, in good health who are working in war plants are already subject to the rules of the draft Board. The problem is how to secure regular attendance, prevent absenteeism, keep up production and not lay off skilled labor unnecessarily. The entrance of women into industry in such large numbers who are more subject to absenteeism due to illness and fatigue, the employment of older workers who cannot always keep the pace, is bound to increase the apparent absentee rate unless these corrective efforts are taken.

The Department of Labor is attempting to give help and advice to both employers and labor in this field. There is no substitute for supervision in industrial organization and operation.

The Division of Labor Standards is serving as a clearing house for information on ways and means of controlling absenteeism. Many of the large war plants have turned over to the Division detailed records of the devices which they have developed so that other plants may benefit by their experience. This experience has already been made available to many plants throughout the country.

Getting and spreading information, however, are only the first steps in solving the problem. The next is the practical application of this information by the 90,000 war plants in the United States. Excessive or shirking absenteeism, as we use the term today, is not common to all plants. Many concerns have had no increase in absentee rates during the war period. Other plants in the same industry but in a different locality may have a rate running into the twenties.

The causes of absenteeism are as varied as the plants concerned. No two plants are found with the same situation. What may be the perfect solution for one may be completely inapplicable to another. Therefore, remedies to be effective must be developed in the plant in accordance with its peculiar problem.

The causes and nature of absenteeism are such that legislation is almost certain not to be the real corrective and may result in delaying practical solution by industry and labor.

The bill which your committee is considering would not, I fear, solve the problem either of absenteeism or of production. Assume that the bill is passed. Workers who are absent excessively from their jobs without adequate excuse will have their occupational deferment cancelled. But if these workers are drafted this will not expedite production, for their vacant places on the production line will have to be filled by finding and probably training new workers. You must remember that a large and increasing part of our future labor force will be women, men with physical defects and workers too old to draft. The great majority of employers with whom the Department of Labor has conferred have said that they cannot afford to lose men with essential skills in this time of labor shortage.

The problem before us is to control and discourage absenteeism without having to discharge men as a disciplinary measure in a time of labor shortage.

Absenteeism is not a new aspect of industrial life. The war situation, however, emphasizes it and in many cases aggravates it. Every country at war has had to deal with this same human problem. Legislation as a method of control was tried in England but did not supply the remedy. A recent extensive investigation led the Ministry of Labour and National Service to say:

> "The proportion of absenteeism for which legal proceedings are the only appropriate remedy is small in relation to the total * * *. The Ministry of Labour and National Service is convinced that a solution of the problem of avoidable absence from work is more likely to be found by those establishments which look for that solution within themselves than by those which tend to rely more on external powers of discipline or punishment."

The information supplied the Department of Labor by American industry has led us to the same conclusions.

There is no single cause or cure for absenteeism. The causes vary widely from plant to plant, as is indicated by absentee rates ranging from 2 percent and 3 percent up to 20 percent and more. Some of the best conducted plants report that absenteeism is not a problem with them.

About the only cause which prevails equally in every plant is ordinary illness. Long hours, the 7-day week, fatigue, eye strain, poor ventilation and heating, bad sanitation, improper diet, unnecessary physical strain, poor and inefficient and uncomfortable working conditions--these are the factors that increase the number of workdays lost in industry due to illness. Many of these conditions are preventable. Accordingly, the health programs sponsored by many companies for their workers are a direct attack on this source of lost time. Many plants have attacked digestive illness by installing plant cafeterias serving well-balanced meals and by supplementing workers' diets with foods necessary to health. In some cases vitamin preparations and cold vaccines have been distributed free, or at cost, to reduce respiratory illnesses. Good results have been obtained by these and similar programs. The Public Health Service figures justify an estimate of 350 to 400 million man days lost last year by illness in the United States. About one-half is minor and preventable.

Absenteeism rates in most plants include time lost from industrial accidents. In 1941 industrial accidents alone caused a loss of 251 million man days of production. While complete figures are not yet available for 1942, we know that the industrial accident loss was even greater for that year. War industries, many with our help, have proved that this waste of manpower is largely preventable if plants apply existing knowledge of safety.

Transportation difficulties are an important factor in absenteeism especially in many huge war plants built in outlying areas and drawing their labor supply from great distances. One firm attributed 31.7 percent of its absenteeism over a 6 weeks' period of study to transportation difficulties. To meet this problem one company set up a transportation coordinator who arranges car pools and takes care of gas and tire rationing and repair needs for workers, thus cutting two sources of time loss. A shipbuilding company is renovating 42 railroad cars purchased from a defunct railroad company to carry workers the 15 miles from a large city to the isolated shipyards. Other firms have purchased and operate busses for workers where other transportation is inadequate. In many places working shifts in the same plant and in neighboring plants have been staggered to ease peak demands on overloaded transportation systems.

Excessive working hours increase absenteeism, much of it due to accumulated fatigue. A British war plant in 1940 increased overtime by 26,200 hours, but during the same period sickness and absenteeism increased by 23,800 hours. Thus, 80 percent of the time increase was cancelled. The Bureau of Labor Statistics reports a plant of about 4,500 workers which found absenteeism running around 20 percent when weekly hours were 73-1/2; when it cut hours to 55 a week, absenteeism dropped to 8 or 9 percent. General Motors found that men working 7 days a week 7-1/2 hours a day lost twice as much time as men working 6 days. Another firm reported a "significant" drop in its absenteeism rate, which had been running at 14 percent, when a 7-day schedule was reduced to 6; also, production per man increased.

There are many other causes of absenteeism for which specific remedies are not so obvious. For instance, in many communities where new war plants are located, there is little by way of housing, wholesome recreation, social life, churches, clubs, and other types of community services which make for stability in work and good morale. Also, as our labor market becomes tighter, we are bringing into the labor field older people who are unaccustomed to heavy and continuous work. We are bringing in farmers who try to keep up their farms and at the same time are trying to work in war factories. Increasingly we are depending on women, and often married women, to help meet the labor shortage. No matter how patriotic these women may be and how interested they are in maintaining a good plant record, their family responsibilities are bound to affect their attendance records. The English have had to adjust their production schedules to meet requirements of these women with two jobs--home and factory. By various schemes the employees are given planned time off for shopping and necessary household duties. Through this type of planning, absenteeism is checked and production does not suffer.

In normal times there is always a certain amount of absenteeism. As we employ an increasing number of the old people, of women, the young, the weak, the handicapped, the people who are unaccustomed to employment, we can expect that the percentage of absenteeism will increase. Methods of correction must be persistent and punctual.

Management and unions of war plants all over the country have in many cases in the past months faced these problems of absenteeism squarely. With true American ingenuity they have developed numerous new and successful techniques for meeting them.

Their success is based not only on good record keeping and analysis of causes, but upon clear definitions of absenteeism and of what constitutes excused and unexcused absences.

After determining explicit rules on absences, the next step is to cut down the unexcusable absences. Many firms have done this successfully by cooperation with unions, labor-management committees, and the Government. The personnel director of one company said: "We have been successful in reducing our percentage of absenteeism from about 18 percent per week a year ago to a low of 4.01 percent in recent weeks. This splendid showing is entirely due to the cooperation we have received from the representatives of the American Federation of Labor, Metal Trades Department * * *. It is my firm conviction that a committee of men representing the workers if any plant can be as successful when the matter is placed squarely before them and a sincere effort made to enlist their cooperation." Said another firm: "The labor organization in this particular plant is harder boiled with absentees than management." From a large manufacturer comes word that "the Union cooperates 100 percent in trying to break down absenteeism." Another company records that "management is working constantly with the business agents of the Union who seem to be trying conscientiously to help us."

Many labor unions are undertaking the responsibility of dealing with members who show persistent absenteeism without valid reasons. Also many unions are carrying on education work among members to improve the psychological factors that enter into absenteeism and help workers to realize their individual and personal responsibility for production. Both the A. F. of L. and the CIO are carrying on active anti-absenteeism campaigns.

Some plants have reduced absenteeism through immediate check-ups on absentees by home visits or telephone inquiries or by having foremen or other plant officials interview them upon their return. Two plants of one large firm credit home visits and telephone checkups with reducing absenteeism by 78 percent or from 237 a week to 53 in one case; and by 35 percent or from 4,423 a month to 2,878 in another.

A shipbuilding firm with an absenteeism rate of over 20 percent brought it down to 8 percent in a 20 month-period by requiring workers to explain their absence to their supervisors. More and more firms report success with having foremen check absentees.

As *Modern Industry* said, following an intensive investigation of absenteeism:

> "Good foremen and leadmen--like good quarterbacks and good top-kicks--can inspire workers to greater efforts and good attendance. Bad supervision can cause absenteeism.
>
> "Competent supervisors can investigate causes of absenteeism with greater ease than personnel or medical staff members. The worker soldiering on the job, taking unnecessary time off, may be able to slip by officials higher up in the company, but he can't fool his own leadman or foreman. A word from an immediate supervisor can be more effective than a reprimand from someone higher up the line."

More and more firms tell us it is essential that workers know their absence is noticed and that as individuals they be shown what one day's absence means to war production. Various informational and promotional methods are used. For example, the American Screw Company of Providence, Rhode Island, reduced absenteeism 50 percent--from 100-110 absences a day to 42-50--by a poster placed in each department and changed daily which dramatically informs workers of production losses caused by their absence. The posters explain that each employee makes an average of 9,720 screws a day. These are used to assemble airplanes, guns, tanks, and ships which the Army and the Navy, on the job every day, need to win the war. The poster then says, "Today there are 40 employees absent from the American Screw Company * * * America loses 408,240 screws a day." Absences in each department are also noted on the poster and, as a result, an average of five departments a day now have 100 percent attendance.

American industry and labor can solve the absentee problem. They have already begun to solve it as this record confirms in the practical realistic way it requires by correcting the conditions that cause it.

The Department of Labor recommends that management establish methods for following up each case of absence and develop and (1) keep accurate and uniform records, (2) study and analyze the cause of absenteeism, and (3) follow through with corrections of the causes whether they be illness or accident. Lack of transportation facilities, car-sharing difficulties, disagreeable and unhealthful working conditions, difficult shift schedules, excessive hours of work, (4) Check up with individuals who are deliberate or repetitive shirkers and with labor cooperation fine them. If they are 18-45 and male, I take it the draft board will consider their case.

As I see it, the most effective approach on the part of the Government to the problem of absenteeism is to carry directly to the thousands of plants now operating on war contracts information about the methods that have been developed and proved practicable in our leading industrial establishments. This is the method which the Department of Labor has been using successfully with management and labor and which it will intensify in the coming months.

absenteeism

U. S. Department of Labor
Women's Bureau
Washington

March 11, 1943

# ABSENTEEISM
(Unauthorized time away from the job)

## I. Extent

Few statistical data are available to indicate the general extent of absenteeism in war industries. Scattered surveys have been made, but many of these are of limited value because they cover too few workers and plants:

a. Bureau of Labor Statistics reports from commercial shipyards show absenteeism rate of 7.8 percent in October 1942. Women were then 2 percent of the workers. In the airframe and propeller industry, B. L. S. reports absenteeism at 6.4 percent.

b. War Manpower Commission survey of 45 plants employing 210,000 workers in Michigan, Ohio, Kentucky, released in February 1943, shows absenteeism rates varying from 3 percent to 6 percent.

c. The New York Regional W. M. C. study in January 1943, covered only 8 plants employing 40,000 workers; showed average daily absenteeism rate of 6 percent for all workers; greater for women than for men; highest rate the day after pay day.

d. National Industrial Conference Board study, November 1942, covered 22 companies, employing 80,000 workers; showed that illnesses accounted for 47.5 percent of absenteeism; personal reasons accounted for 51.9 percent of absenteeism, greater for women than for men.

e. C. I. O. President Murray estimates that normal absenteeism of workers in American industry is 2.2 percent. Since the war it has increased to 4.5 percent, and among women it is 6.5 percent.

f. British Experience: In the fall of 1942 it was estimated, unofficially, that 10 percent daily of the 6,000,000 British war workers were absent from work. Though legal proceedings may be instituted against those who are absent without reasonable excuse, the British Government has made little use of its legal authority. Instead it has adopted a remedial program by trying to find the cause of the absence and correct it.

## II. Causes of Absenteeism

Absenteeism can be dealt with effectively only if the causes are known. Statistical data do not differentiate between voluntary and involuntary absenteeism, i.e., between casual and deliberate absence from work, and absence due to causes beyond the worker's control. The distinction is especially important in the case of women workers. Women are more subject to illness than men. Many women carry on two full-time jobs--home and factory. Absenteeism can be reduced only if industry and the community will cooperate to remove the causes of absence.

### a. Illness and Accidents

It is generally agreed that the major cause of involuntary absence is sickness.

The U. S. Public Health Service reports show that in 1940 the frequency of sickness and nonindustrial injuries lasting more than 8 days was 153 per thousand for women as compared with 96 per thousand for men. For 1941 the number of cases per thousand women was 163 as compared with 101 cases per thousand men.

For illnesses of short duration the excessive sickness rate for women is even more marked. One company reporting to the Public Health Service, for example, found that the annual rate of sickness of 1 day or longer was 1,561 per thousand women, and 894 per thousand men.

In addition, where both husband and wife are working, sickness among family members or children usually means that the wife rather than the husband remains at home to provide care.

### b. Fatigue

Fatigue due to continuous work with too little time for rest and relaxation is a direct cause of absenteeism. The worker takes time off to rest up, sometimes preventing serious sickness or nervous exhaustion later.

Long working hours inevitably cause fatigue. Night work makes it difficult for the worker to get sufficient rest. The 7-day week is particularly harmful. A General Motors study showed that absenteeism was greater where the work week was changed to 7 days of 7 hours each than it had been when the workweek was 5 days of 10 hours each. One day off per week is essential to keeping down fatigue.

Working conditions in some plants, poor eating facilities, inadequate lighting and ventilation, increase fatigue. In some plants insanitary, crowded, and poorly kept restrooms contribute to dissatisfaction and uneasiness of women workers.

Transportation difficulties, long hours spent in travel at the beginning and end of the working day, crowded buses and streetcars and the necessity of standing for journeys of 30 minutes or more, all have been found to add to the worker's fatigue.

When the worker is a woman with home responsibilities so that her workday does not end at the factory, fatigue is immeasurably increased.

c. Home Responsibilities

Many women employed in industry also carry the major burden of running the home. This is even more true of married women who are entering industry for the first time under pressure of the war emergency.

Home responsibilities, which many such women must undertake, include marketing, cooking, care of children, house cleaning, laundry, shopping, and numerous miscellaneous chores. All these must be done in the worker's time away from the job, and contribute to absenteeism.

d. Housing Shortages and Transportation Difficulties

Makeshift housing such as trailers, tents, and frame shacks cause inconvenience and unrest among workers, so that they spend time looking for new quarters. Insanitary conditions also lead to sickness.

Crowded housing facilities around many war plants often make it necessary for the worker to live an unreasonably long distance from the plant, and indirectly result in absenteeism.

e. Other Causes—Voluntary Absenteeism

Some causes given by employers and others who regard most absenteeism as deliberate and intentional are: High wages, making full-time work unnecessary; drunkenness; fishing; movies, and other diversions.

Some causes of absenteeism advanced by labor unions are: Inefficient management; lack of planned production; lack of good supervision; poor factory morale.

## III. Methods of Reducing Absenteeism

In general, methods for reducing absenteeism may be classified in two main groups: (a) Direct appeal to the worker, through disciplinary action or otherwise; (b) Indirect cooperation with the worker by furnishing increased facilities and otherwise helping him carry his responsibilities. To date, discipline has been the most usual method in this country. Cooperation of the employer and community in solving the worker's problems has proved to be a successful method in Great Britain and is receiving increased attention here.

### a. Direct Appeal to the Worker

1. By the employer:

(a) Discipline
Nearly all employers interviewed by Women's Bureau field agents used disciplinary methods to reduce absenteeism. Some methods tried are penalty layoffs; probation; low-pressure follow-ups, such as home visits by personnel workers; telegrams and telephone calls to absent workers; removing the time card from the clock and substituting a warning card instead; requiring the worker to fill out a questionnaire; posting public record of absences; loss of annual vacation.

(b) Reward
Departmental contests for the best attendance; award pins and certificates; use of attendance records as basis for promotion and transfer; naming manufactured products for the worker with the best attendance record; attendance bonus.

(c) Personnel policies
Many companies are adapting their personnel policies to meet the growing problem of absenteeism. One method is to have someone who is capable of an understanding and sympathetic approach to the workers' problems interview workers who return to the job after an unauthorized absence.

The Secretary of Labor has recently suggested to employers that centralization of authority and adoption of a definite system of handling absences would help solve the problem in each plant. The Secretary's recommendations are: (1) Place one person in charge of absences, (2) Have untoward absences reported to him, (3) Analyze the causes of absences, (4) Discover which ones management, or labor, or both, can remove, (5) Keep absenteeism records which are standard with those kept by other factories.

2. By the unions:

Methods reported include use of pledge cards for members; investigation of absences; personal interviews of chronic absentees; withholding of Sunday double time; work through labor management committees.

b. Cooperation in Meeting the Worker's Problems

Exhortation and ohter direct appeals to the worker are inadequate remedies for the problem of absenteeism because they do not correct the cause of the trouble. Problems facing women workers must be met by cooperation of employers and the community.

1. What the Employer Can Do:

(a) Working hours

(1) Moderate working hours for all workers: The 8-hour day and 1 day off in 7 should be the standard for all workers to prevent fatigue. Women's Bureau agents reported that one company had almost no absenteeism after they went on a 5-day week.

(2) Planned hours of work: Where women have many outside responsibilities, the employer should arrange working hours to fit the worker. Not all women can observe usual factory hours and rigid shifts.

(3) Part-time work: In England, part-time work has proved successful for women with home responsibilities. In December 1942, part-time workers in Great Britain numbered 500,000.

a. Shift schedules

Hours of shifts are adjusted as far as possible to suit the individual having the care of a home and children.

Schedules for part-time work which have proved to be satisfactory are:
2 part-day shifts; 7:30, 8, or 8:30 a. m. to 12.
12:30, 1, or 1:30 p. m.
1, 1:30, or 2 p. m. to 5, 5:30,
6, 6:30, or 7 p. m.
Reduced day: 9 or 10 a. m. to 3, 4, 4:30, or 5 p. m.
Part-of-week working: 2, 3, or 4 days a week,
sometimes on alternate days.
Evening shifts: 3, 4, 5, 5:30, 6 p. m. to 8, 9,
9:30, 10 p. m., or midnight.
Week-end shifts
Relief shifts
Rush-hour shifts.

b. Suggestions for using part-time workers
   (1) Keep the part-time section separate.
   (2) Select work that can be finished in a single work period, or jobs of a repetitive nature that can be put aside until the next work period without interfering with production. (Containers should then be provided for storing the work.)

(4) Night work: Family responsibilities and care of children should be taken into account in assigning night work. Shifts should not be rotated too frequently, as the worker must have an opportunity to adjust to the change in sleeping and eating habits.

(5) Holidays and vacations: An annual vacation of at least one week is a physiological necessity. Though American industry has discontinued the practice of granting public holidays in the war period, it is notable that Great Britain has recently restored this practice and will give all workers a 3-day holiday four times a year.

(b) Plant facilities

The employer has a direct responsibility to safeguard the worker's health through: adequate safety devices; first aid and medical treatment; change houses for workers who handle toxic substances or work in hot and humid atmospheres; annual physical examinations; hot meals in the plant; lunch facilities; time for lunch.

The employer should provide well-kept and adequate restrooms, and should give employees at least two 10-minute rest periods each day in addition to the lunch period, during which the worker can leave the workroom.

(c) Transportation

Many employers have organized "car pools" so that workers will have better transportation. Some war plants operate their own buses where other transportation is inadequate. Staggering of working hours for each shift also eases the transportation burden.

(d) Morale

The employer has a major responsibility to maintain workers' morale. This can be done in many ways. Each worker must know the importance of his own particular job and its relation to the whole enterprise. Organized recreation, even by private facilities, has proved successful, such as bowling teams, etc. In England, an effective method of maintaining morale is to grant time off to women whose husbands are home on furlough.

2. What the Community Can Do:
Any steps taken to lighten the woman worker's double load of factory work and housekeeping, or to improve her living conditions, will indirectly reduce absenteeism. Some of the methods found satisfactory in Great Britain which might be useful here are the following:

   a. Time off for shopping:
   One afternoon a week is allowed in many British plants, or in some cases 1 or 2 hours twice a week. Some firms have a relief worker who takes over as the regular workers take their turns at shopping.

   The Women's Bureau has reports of some war plants in this country that now maintain a mobile utility working force used as fill-ins for absent workers. However, no such plan appears to be in use for absences excused in advance.

   b. Shopping certificates:
   The British have worked out a system by which the worker can leave a "priority certificate" or a written order on the way to work, to be picked up at the end of the day or later in the week, so that the worker gets her share of rationed and unrationed goods. "Buyer certificates" are also used so that friends of workers can do their shopping for them.

   c. Change in business hours:
   In some areas both here and in Britain, stores are kept open later than normal to allow workers to shop in the evening. There is need for access to professional services at other than the established hours. Workers who must visit dentists, doctors, and lawyers usually must take time off from work.

   d. Communal food services:
   The British Government has recognized the importance of factory food service and may require any manufacturers employing more than 250 workers on war production to provide canteens. Many plants in this country lack satisfactory food facilities where hot meals may be purchased at reasonable cost.

   British Restaurants, which is the term used for emergency eating centers, furnish food at nominal cost to the general public. Many families make use of these restaurants for meals outside the home.

   e. Day care of children:
   Adequate provision to meet this need is an immediate requirement if absenteeism among married women homemakers is to be reduced.

   f. Improved housing facilities:
   In some areas workers are living in trailers, tents, and hastily constructed wooden shacks. In rooming houses, beds are occupied by workers in rotation, and highly insanitary conditions are reported. Communities can do much to relieve unsatisfactory housing conditions.

E.C.

# How to Curb Absenteeism

## BY JAMES A. WECHSLER

*Washington, March 6*

REPRESENTATIVE RANKIN of Mississippi confided to a half-empty House the other day that God rescued Eddie Rickenbacker so that he might bring Americans the truth about absenteeism. It appears likely, however, that the current furor over hooky-playing among war workers would have occurred without divine intervention. The "strike wave" had been played up too hard at anti-union revival meetings; with walkouts reduced to an invisible minimum, the beat-labor-first bloc desperately needed an issue. And then came Rickenbacker. He accused home-front workers of lying down on (or off) the job, urged suspension of overtime payments as a sobering-up measure, and incidentally opposed the $25,000 salary ceiling as inconsistent with the American dream. He made "absenteeism" a headline word, and he got a lot of lecture invitations.

Since the aviator's first public sermon, the subject of the cause and cure of absenteeism has been magnified to amazing proportions. Most of the talking has been done by those who, like Rickenbacker, appear more eager to discredit labor than to cut down job absences. They have created the impression that the nation's workers, with the stealthy cooperation of the union bosses, are wilfully devising new and ingenious ways of staying home from work. Last week-end Admiral Edward L. Cochrane denounced an epidemic of "twenty-four-hour pneumonia cases" and asserted that the absentee problem "is one which can be solved only between the individual worker and his conscience." The best available evidence indicates that this is bunk. Informed government officials believe that if all "wilful absenteeism" were eliminated, only a minor increase in job attendance would result. Secretary of Labor Perkins has estimated that 90 per cent of the absences are due to industrial accidents and illness. Many accidents and some illness could be prevented, but not by workers communing with their consciences or by admirals delivering speeches.

None of this is to suggest that the loss from absenteeism is trivial. It isn't. People in the best position to know believe we have just begun to get a glimpse of the scope and nature of the problem. Labor Department surveys show that absenteeism in commercial shipyards has averaged about 7 per cent since last April; in air-frame plants, 6.4 per cent since January. The department's *Monthly Labor Review* admits that, apart from specific studies, "there is no statistical information available to indicate the general extent of absenteeism in war industries." All the localized inquiries, however, furnish indisputable evidence that involuntary absences are much more prevalent and serious than week-end binges. This was confirmed by the OWI's recent analysis of government information and by the absentee study prepared by *Fortune*.

The causes of involuntary absence should be pretty apparent, but they have been obscured by the loafing legend. Overnight expansion of war industries has created a multitude of daily annoyances and hazards for war workers. Inadequate transportation facilities become hopelessly snarled in bad weather. (Did any newspapers headline the story of two elderly Connecticut workers who went back to their jobs when war came, tried to walk to work in a blizzard, and perished on the way?) Lack of housing has forced families to live in trailer camps where illness rates have risen steeply; workers at Willow Run have been living in desolate shacks without heat or proper sanitary devices. Such conditions are imperiling the health of employees in many war-industry areas.

Again, the thousands of women who have been added to the labor force are intensifying the rising absentee rate. For one thing, women are less used to the arduous routine; for another, inadequate facilities for the care of their children and unavoidable housekeeping demands compel them to take time off. Similarly, the many older workers who have returned to the labor market are inevitably more subject to accidents, sickness, and fatigue than younger men. In many plants the work-week has been steadily lengthened, sometimes to fifty-four hours or more. British experience after Dunkirk showed that the cost of such an increase is many man-hours lost through absenteeism.

All these factors are by-products of the sudden creation of an industrial war machine. Some can be combated with direct government measures, such as large-scale housing projects. But a large part of the problem, most investigators believe, arises in the war plants themselves and is directly attributable to the negligence or the apathy of the management. Reports to the Labor Department reveal that fatigue, eye strain, poor ventilation, inadequate heat and sanitation, and lack of food facilities are all contributing to illness—and absenteeism. It has been found that steps as simple as providing decent drinking fountains and improved lighting will bring dividends in better job attendance. These so-called "frills" become imperative when men are working fifty-four hours a week.

There are usually two sides to every "horror story" about absenteeism. The front pages of many newspapers recently reported that the Bethlehem Steel Corporation had fired 150 welders at its Fore River shipyard because they were guilty of absenteeism. Editorials throughout the country cited the case. Subsequently the C. I. O. produced rebuttals from some of the men dismissed. One said that he had worked seven days a week for five and a half months, then got pneumonia and stayed home for two weeks. He was fired for absenteeism when he went back to work. Another said he went to the hospital for treatment of bleeding ulcers and was similarly dismissed when he returned.

Finally there is the impact of labor hoarding on workers' morale. C. I. O. officials have showed me numerous case-histories of plants which kept workers around idle because materials were lacking but which didn't want to cut their labor force. (Under fixed-fee contracts the government pays the bill anyway, and profits actually decline if labor costs are cut; besides, the materials may arrive some day.) At a Columbus, Ohio, aircraft plant men were told to go out and play basketball in the afternoon —they were "cluttering up" the plant. When this sort of thing happens, it is difficult to persuade an employee that his showing up for work every day may be a matter of life or death for a boy in North Africa or the Solomons.

It is as silly to think of "legislating" against absenteeism as to plan to outlaw the common cold. The real answer has been found in those war plants where labor-management committees are genuinely functioning and are not treated as mere window-dressing. Wendell Lund, labor director of the War Production Board, cites a California shipyard where absenteeism was drastically reduced after a labor-management committee had discussed its causes. The findings were elementary: the yard needed a sweeping safety program, including regulation of crane-loads, use of respirators in spray painting, and solid construction of scaffolding.

Records in the files of the Department of Labor show that this experience has been duplicated in plants throughout the country. Labor-management committees can also plan more effective utilization of the working force. They can stage morale drives which the workers will understand and respect because the leaders come from their own ranks. They can make life unpleasant for the habitual absentee. Unfortunately, too many managements still regard these committees as the prelude to socialism and either refuse to establish them or ignore their existence. Too many managements—and too many Congressmen—prefer the Rickenbacker cure. But it won't work.

# In the Wind

THE AMERICAN THEATER WING is finding it hard these days to get actors to take part in its "Lunchtime Follies"—performances which are offered in war factories to ease the strain and stimulate production. Actors and actresses who used to give generously of their time and talent are now frequently "tied up." Direct questions put to several of them have brought the equally direct reply that after Rickenbacker's "revelations" they don't want to do anything for labor.

THE *RUBICON*, an Italian-American news letter published in New York, on war aims: "The reason why we are a democracy (pardon! republic) is not so that we can give democracy to the starving Hottentots and Javanese, but so that we may preserve our own Constitution and Bill of Rights *here*, not for the English, the Dutch, the French, the Russians, the Germans, or the Italians!"

BRAVE NEW WORLD: An article in *Broadcasting*, a radio trade magazine, puts it this way: "With the end of the war will come the golden age of American business and industry, and with it the golden age of good, hard-selling advertising technique."

THE OLD AGE PENSIONERS' ASSOCIATION of Scotland recently held a conference on the Beveridge Report. A unanimously adopted resolution condemned the provision for a graduated pension rising to twenty shillings weekly in twenty years, and advocated an immediate pension of thirty shillings.

A SOCIETY COLUMNIST for the San Francisco *Chronicle* recently visited the Greek consul-general in her city and was given ambrosia and nectar in the form of canapés and cognac. "All this," she wrote, "made me believe that no matter how starving the Greeks are today—and we all know that their situation is indescribably horrible—they are making some pretense at keeping up the niceties they have carried from generation to generation right down from Pericles."

THE NEW ORDER: Danish sources report that the town council of Svendborg has voted to give every child between two and seven years of age one hot bath a month. . . . Of 1,122 children examined in Copenhagen, every seventh had rickets. . . . The Danish press is not allowed to refer to Nazi meetings in Sweden as Nazi meetings. They may only be called "meetings." . . . A special ration of twenty pounds of dog biscuit per month is decreed for Alsatian dogs provided the owner can prove the animal's male parent was German. . . . Official Nazi cars in Holland have horns that give a distinctive sound, and when pedestrians hear it they must clear the road or take their chances of being killed. The published order "also applies to street cars."

[*We invite our readers to submit material for In the Wind —either clippings with source and date or stories that can be clearly authenticated. A prize of $5 will be awarded each month for the best item.*—EDITORS THE NATION.]

# ADVANCE RELEASE

ADVANCE RELEASE: For MONDAY MORNING Papers, March 15, 1943
Simmons - 72804

OFFICE OF WAR INFORMATION OWI-1424

England's struggle to maintain full production by reducing time lost through job absences has disclosed that workers and managements themselves can help most in eliminating voluntary absenteeism, the Office of War Information reported today.

An OWI survey, based on official British government reports from the Ministry of Labor and National Service and the Industrial Health Research Board, disclosed also that an important contribution by the British government was the reduction of excessive working-hours.

The large percentage of women war workers, many of them with arduous home duties, and the disorganization of family life even among the male workers are major factors in loss of working time, the reports revealed.

The Office of War Information asserted that the findings closely paralleled those of U.S. war agencies which have been studying the same problem in various war industries here, and that most of the British suggestions, including self-policing by workers' organizations of thoughtless minorities and improvement of working conditions and transportation by managements, were applicable in most U.S. industries.

In England, absence from work and persistent lateness without reasonable excuse are direct offenses against the law in the case of employment scheduled under the Essential Work Orders. The proportion of absenteeism for which legal proceedings are deemed appropriate, however, is small in relation to the total.

"The great majority of those who absent themselves from work or are late in arriving either have what appears to them to be a good reason or are merely guilty of carelessness or indifference," the Ministry of Labor and National Service reports. "In either case, their time-keeping can be improved if the right approach is made."

Sample surveys taken in British plants show that the time lost during a 70 to 75-hour week, such as was worked in England after Dunkirk, was 3 or 4 per cent above the rate found in a 47-hour week. For a 60 to 65-hour week there was a 1 to 2 per cent increase.

The average amount of time lost through sickness, injury and absence without permission in these plants during the normal week of 47 hours was 7.1 per cent, and the time lost through absence without permission was 3.7 per cent, or more than one-half of the total.

"Considering the hours of work, transport difficulties and the influx of new workers unfamiliar with factory life, the time lost was not excessive," the Board report states. "The greater proportion of the total time lost was due to sickness. As in normal times, the sickness absence rate of women was higher than for men."

Summarizing their findings, the Board states that during the year ending in June, 1941, labor wastage was high in some factories but low in others. It was higher for women than for men. Factors contributing to a high rate of wastage were:

(a) The rapid expansion of industry and the employment of many workers, especially women, who were unused to factory work.

(b) The employment of an increasing number of married women who found it difficult to combine factory work with home duties and family responsibilities.

(over)

(c) The added strain imposed by travelling long distances to and from work.

(d) The effect of air raids on home life and transport, especially during the latter half of 1940.

(e) The lack of suitable facilities for meals in some factories.

(f) The inadequate supervisions of workers.

The general conclusions drawn were:

(a) Time lost by factory workers through sickness, injury and absence without permission, when undisturbed by extraneous factors, varies with the weekly hours of work.

(b) The weekly hours of work over an extended period should not exceed 60 for men or 55 for women.

(c) The workers were stimulated to an increased output after the fall of France and, while it was physiologically impossible to maintain the maximum level reached, output in nearly every case has since remained above the previous level.

(d) The beneficial effects of a reduction in excessive hours of work, together with the inauguration of staggered holidays, were reflected in an increase in the rate of working afterwards.

The Ministry in its report on "The Problem of Absenteeism", declares that a solution to the problem of avoidable absences from work " is more likely to be found by those establishments who look for that solution within themselves, than by those which tend to rely more upon external powers of discipline or punishment."

"While it is generally recognized that absenteeism causes a direct loss of production, there has been at the same time a tendency to meet that loss by demanding more labor from the dwindling supply rather than by concentrating on the problem itself with a view to reducing it to the unavoidable minimum," the Ministry report states.

Quoting a report by investigators, the Ministry declares: "To understand the problem of absenteeism it is necessary to appreciate the tremendous sacrifices made by such a large proportion of the workers in accepting what amounts to a destruction of their home life. Home life has always been a person's own very private business and has been the ultimate object and reward of his labor. . . A married woman with a house, a husband and children already has a full time job which is difficult to carry out these days. Yet thousands of them are working long hours in factories. They are trying to do two full-time jobs. If they can carry on with a mere half-day per week off the ordinary factory hours, they are achieving something marvelous. It is time somebody said more about women's efforts in these lines and more about the arrangements which ought to have been made to enable them to carry on. It is not only married women's home lives which have been completely upset, although they are the group needing most consideration. Men's home lives are disorganized by the fact that their wives, daughters, parents, other relations and neighbors are all joint to work or because they have been sent away from their families to work. These major factors must be taken into consideration in forming opinions on absenteeism and in seeking remedies. They should not be confused with 'domestic difficulties' but recognized as a tremendous sacrifice made by an enormous number of working people to help the war effort."

The Ministry urged managements to "undertake their future remedial action in the light of this appreciation of the circumstances in which so many war workers find themselves today."

Common causes of absences were listed by the Ministry as (a) sickness or injury to the worker himself, or herself, or of some member of the family for whom the worker has to care (b) shopping difficulties (c) the requirements of the family and the home--care of children, preparation of meals, cleaning the house, etc., (d) lassitude or fatigue due to long hours combined with long journeys, and (e) employment in a factory where there is 'idle time' making the worker feel it makes little difference if he takes a day off.

"But perhaps the most significant of what may be described as psychological causes is the lack of real interest in the job and a lack of conviction of its importance and ugency, due often to ignorance," the Ministry report states.

To meet these problems, the Ministry expresses the hope that (Works Councils the British counterpart of the management-labor Production Drive committees), supplemented by informal talks, will bring home to the workers the importance of the job being done. Managements can make an important contribution, it added, by planning the working hours of individuals and sets of individuals with some regard for their personal circumstances.

"At present," the report states," hours of work are too often decided more or less for the factory as a whole, regardless of the fact that their full and consistent observance by a substantial proportion of the workers is not reasonable to be expected; for example, by married women with young children, or by workers whose daily travelling time is 1½ to 2 hours each way. The result of the existing method is that such individuals who occasionally absent themselves are merely regarded as absentees with an increasing public stigma on them; the factory as a whole acquires an unenviable reputation for absenteeism; and there is encouraged a widespread 'whispering campaign' that people are not pulling their weight etc., -- which is definitely harmful to general morale. These results tend to follow on an undue adherence to the normal peacetime rule that working hours are fixed by and for the factory and that everyone who works there is expected to observe them. In present circumstances, much greater flexibility is needed."

The British Ministry advised managements to give attention to these problems.

"Much could probably be done," it stated, "by redistributing the work and/or the labor force of the factory so that those who need special working hours would be so employed as to not disorganize the work of others. It might be possible, alternatively, in the case of women, to arrange a rota system whereby each worker has one day off per week apart from Sunday."

"The adaption of the industrial machine to meet the reasonable requirements of the human beings who operate the machine is essential if the optimum national output is to be maintained and anything approaching war weariness is to be discouraged."

The Ministry recommended that one person in each factory be designated to deal with absenteeism and that the extent of job absence be made known to the workers. The management should maintain close consultation with the representatives of the workers and should make available to them the factory's records of absences, tardinesses and all revelant data. The workers' representatives, the Ministry said, "have a special responsibility for convincing the thoughtless minority of their fellow workers that absence from work, whether during normal or overtime hours, except for unavoidable reasons, not only interferes with the nation's war effort but is grossly unfair to the great majority who do their part with diligence and enthusiasm in spite of the long hours and the personal and domestic inconvenience involved."

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# ABSENTEEISM

By Elisabeth Christman, Field Representative
Women's Bureau, U. S. Department of Labor
Conference of the Institute of Women's Professional Relations,
Saturday afternoon, April 10, 1943.

There is much talk about absenteeism but few reliable facts. Absence from work is as old as work itself. Its causes are as various as human behavior, ranging from legitimate involuntary reasons to inexcusable truancy. The cures proposed are equally various and go to the extreme of punitive measures like lay-offs or dismissals. If we believed wholly in newspaper headline and what anti-labor groups say we might fear that production was almost at a standstill. However, could the figures be put on a percentage basis for the country as a whole, they would tell a less alarming story. Certainly it is not my intention to belittle the problem. On the contrary, it is a problem.

Lacking overall figures we cannot gage the extent and effects of the problem from fragmentary data. Secretary Perkins, in a statement before the House Naval Affairs Committee stated, "Many of the best managed plants report to us that they have no problem of absenteeism. Others say that absenteeism is very low. In a few cases it is high." Absentee figures available, she pointed out, range from 2 and 3 percent and more.

An overall estimate, offered by Phillip Murray, President of the CIO, is that the normal absenteeism rate is 2.2 percent but that since the war it has increased to 4.5 percent. A recent Manpower Commission survey of 45 plants employing 210,000 workers showed absentee rates from 3 to 6 percent. William Green, President of the AF of L. has said, "Labor is determined to take the absence out of absenteeism." Both major labor organizations are carrying on active campaigns and are doing a constructive job in dealing with the problems.

The Supervisor of Westinghouse Electric in Pittsburgh said that if the problem is looked into carefully, industry will find itself partly to blame. At the feet of the employer lie long hours, material shortages, (causing lay-offs) hiring beyond needs, and poor planning and scheduling. Other reasons are transportation and poor housing which are the fault of the community. One has only to go through a plant to be conscious of and to appreciate the steady drive and constant pressure under which men and women work to meet production schedules. Inevery war plant there is a tension that keys up workers and causes physical and emotional fatigue. We are told that in some instances the absence rate is higher among women than men. In February the women's rate for absenteeism was about 4 1/3 percent and a little above 4 percent for men. Incidentally, women have more legitimate reasons for being away from their jobs, among them, shopping and rationing problems. Consider the matter of home responsibilities. U. S. Women's Bureau studies reveal that many women have two jobs - one in the home and one in the plant. This is particularly true now when all members of a family are employed, which is increasingly the case in labor shortage areas. Women must do many chores in the time around the edges of their job in the plant, especially now that the 6 day week has suspended the Saturday half-holiday. All workers - even those with long experience - are faced with changed conditions - due to conversion from peace time products to war materials. There are literally hundreds of thousands of new workers with no industrial background, no shop habits nor discipline. In many plants women are being hired for the first time.

Against this backdrop of industrial patterns, absenteeism has to be analyzed. But there is another backdrop to the scene. The simple mechanics of living have grown more complicated. Not only are the work days and workweek longer; we must stand in lines and more often for groceries, gasoline, ration books, or to catch a bus. To shop on the one evening the stores are open - and in many cities there are no evening store hours - is hectic but necessary. In the production centers where I have been, men and women have not complained, but they have said they needed more reasonable leeway to look after the necessary things of life without being branded absentees. We must differentiate between voluntary and involuntary absences. I want to say again - absences for which workers may seem entirely at fault prove on further analysis to be rooted in plant conditions - long hours of work - inadequate supervision - inefficient management - and in community conditions.

Industrial accidents and illness, we are told, account for at least two-thirds of the absenteeism. Here is a situation that can and must be controlled. How can we ignore the fact that workers are kept standing around due to the uneven or delayed flow of materials. Such conditions develop bad habits among workers who feel they can stay away from work without being missed. An interesting promotional scheme has been used by the American Screw Company of Providence, R. I., to show workers what the absence of one individual for one day means to production. Posters explain that each employee makes an average of 9,720 screws a day used to assemble planes, tanks, guns and ships. The post says, "Today there were 40 employees absent from the American Screw Company - America loses 408,240 screws a day." As a result of this educational campaign, an average of five departments a day now have 100 percent attendance.

Bad supervision can cause absenteeism. A foreman who was good when in charge of men making sewing machines may prove a misfit for supervising women on aircraft guns. Well qualified women counsellors, with an understanding of human beings, to act as a liaison between the foremen and the women on production lines may be one answer. But the most successful efforts in meeting the absence problem are those giving labor a responsible share in the campaign, through labor-management committees, the kind that is really functioning and not treated as mere window dressing.

The United Steel Workers Union has drafted a 4 point program at its labor-management conference; (1) to determine the extent of absence in the individual plant; (2) learn the workers' reason and suggest a remedy; (3) enlist complete cooperation of management and (4) plan with management and the member ship of the Union for the production of war materials so that unavoidable absenteeism is reduced to a minimum. In the Murray Company in Boston, absence has declined to 1.3 percent since management agreed to give the union full charge of the problem.

Community forces - which include trade associations, labor organizations and civic groups aware of workers needs - can and should see that essential facilities and services are set up to iron out certain difficulties beyond the plant gate. Store hours should be staggered, transportation eased, and banks and ration boards should adjust their hours in harmony with workers' needs. Inadequate and bad housing should definitely be a community responsibility. Lack of housing means that large numbers of workers travel long distances to and from work. I know workers who travel 62 miles or 124 a day to and from work. Old tires, old cars, and bad weather make such commuting uncertain business. One firm attributed almost a third of its absenteeism over a six week's period of study to transportation difficulties. The Government - in addition to furnishing funds to help provide such community facilities as better housing, nursery schools, and recreational centers has a definite responsibility to help solve the problem of absenteeism. And I don't mean legislation against it. It is, in my opinion, as unwise to think of legislating against absenteeism, as to legislate against common cold.

An important role for the Government, which is actively concerned with the problem - is to carry on education and research activities. The Bureau of Labor Statistics, the Division of Standards and the Women's Bureau need to work more closely with management to induce them to keep more careful and uniform records -- and by sex - thus making available facts useful in getting at the root of the problem. The House Labor Committee has just recommended that the War Department, the Manpower Commission, the War Production Board and the Office of War Information "lay before the public the real problems involved in absenteeism, to clear up false impressions now current that American workers are slackers...in this country we believe in the giving credit where credit is due, and therefore we should recognise that contribution American workers are making to war production."

Finally the general public has a definite share in this whole remedial program. There is too much uninformed criticism in print and in speech about workers as shirkers. Let's get our constructive arm into action! Let's call an armistice to the constant scolding publicly of workers in general as though all the fault lies with them. The National Industrial Conference Board, an employers' association, has pointed out that in most companies most workers have a perfect attendance record - that a firm's time lost through absenteeism is caused by a comparatively small number of "repeaters."

Mr. Kaiser, the shipbuilder, has a new word - "Presenteeism," and he suggested that we talk more about presenteeism instead of absenteeism.

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WOMEN'S BUREAU
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WOMEN'S BUREAU
JUN 20 1944
DEPARTMENT OF LABOR

Miss Anderson

To The Man Who Seeks
A "Cure" for "WOMEN A.W.O.L" ...

The United States Department of Labor says: "Asking a personnel director if he has an absentee problem is like asking a stray dog if he has fleas! The answer is yes, but sometimes they bother more than others."

Fleas yield to treatment - so does absenteeism though the remedy may be vastly different.

The Personnel Journal describes the necessary treatment as "overcoming incentives towards absence with incentives toward attendance and steady hard work. And we don't mean money incentives either! We mean the job satisfaction that arises from a happy blending of the worker's capabilities and interests, from a knowledge of the company's sincere concern with his welfare, and the social approval he may earn by his skill." To these incentives, something new has been added!

The war enables us to draw upon the patriotic urge to help relatives on the fighting fronts. If you can convince the woman worker by precept and example of the importance of her job and her need to stick with it your treatment will get results. How can you do it?

The basic need in putting your treatment to work is a frank, graphic discussion of absenteeism which appeals to a woman's imagination because it's grooved to a woman's interests and aspirations

"WOMEN A. W. O. L." is shrewdly conceived and written to do the job. First, a strong emotional desire to stick with her job is built up in the woman worker. The images awakened in the reader's mind hinge upon her interest in admired personalities such as screen stars. Second, stereotyped excuses for absenteeism such as a sick husband, looking for a new apartment, care of children, shopping for food, banking and so forth are given practical alternatives, and therefore shown to be unnecessary.

Please read your complimentary copy enclosed. You'll recognize, we think, the personal tone and force of this booklet. Placing a copy in the hands of every woman employee is a positive step towards control of WOMEN A.W.O.L. A handy order card is enclosed. Fill it out and mail it today!

Sincerely yours,

George L. Fullner

Assistant to the President

GLF-TS
AWOL

P.S. A booklet for men entitled ON THE DOT is also available. Ask for a sample copy and prices. No obligation.

# ADVANCE RELEASE

ADVANCE RELEASE: For TUESDAY AFTERNOON Papers, June 15, 1943
Robinson-Labor 39

OFFICE OF WAR INFORMATION

U. S. Department of Labor OWI-1975

Reduction of absenteeism and labor turnover among women workers depends to a large extent on a basically sound job-placement program, according to a special bulletin issued today by the Women's Bureau, U. S. Department of Labor.

The constantly increasing use of women in fields in which they have had no previous experience makes imperative a planned, efficient system of personnel administration, it points out. Intelligent use of womanpower depends for the most part, it has been found, on a sane grasp of the potentialities of the woman worker and a readiness on the part of industrial management to institute engineering changes which will take the fullest advantage of those qualities.

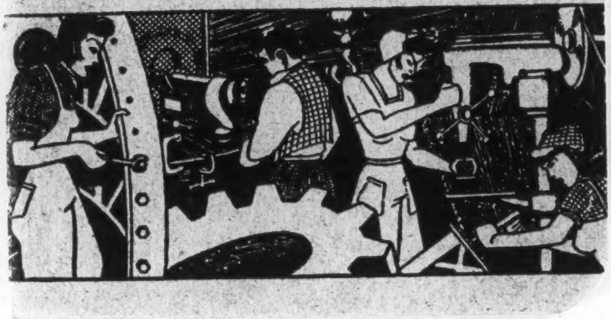
The bulletin, "Choosing Women for War-Industry Jobs," advises a thoroughgoing job analysis as the first step in a placement process. The selection problem centers mainly around the task of matching the individual woman, with her peculiar characteristics of strength, size, aptitudes, and temperament, to the established job in the plant, it is pointed out.

Since many small industrial plants cannot maintain a fully developed personnel department, aids for scientific selection and placement are made available by various agencies. The Women's Bureau offers a job-analysis service and the United States Employment Service is equipped to set up a complete program for any industry. Private concerns act as consultants on testing procedures.

Copies of "Choosing Women for War-Industry Jobs" are available from the Superintendent of Documents, Government Printing Office, Washington, D. C., for five cents.

Return to OWI

# Women A.W.O.L.



# *WOMEN A.W.O.L.*

## ABSENTEEISM

## And What Every Woman Should and Can Do About It

Rec'd
July 1943

*By* **WHITNEY WILLIAMS**

[illegible] to Craft
[illegible] women's [illegible]

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National Foremen's Institute, Inc.
Deep River, Conn.

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All rights reserved. No part may be reproduced in any manner without written permission from the publisher.

The greatest problem in Industry today is **ABSENTEEISM.**

Because of **ABSENTEEISM,** the war effort is being irreparably retarded—millions of work-hours are lost every week which can never be regained.

And because the war effort **IS** being irreparably retarded—through **ABSENTEEISM**—our boys overseas, **YOUR** boys, **YOUR** husbands and **YOUR** sweethearts, **YOUR** sons and **YOUR** brothers, those **YOU** love the most, are dying.

It is **YOU** who are responsible for **ABSENTEEISM.**

What are **YOU** going to do about it?

Latest surveys indicate women are the worst offenders.

Though certainly not confined to the one sex—men, too, are flagrant violators—reliable governmental figures show the absence rate of women is far, far higher than that of the men.

But wait...perhaps you do not understand fully the meaning of the term...

Just what is **ABSENTEEISM?**

**ABSENTEEISM** is deliberately being absent from your job when you are physically able to show up for work...

It is taking the day off because you don't feel like reporting at the plant, when there's really nothing wrong with you...

It is staying away, and not notifying the foreman or the boss in advance, or early enough so he may make arrangements for somebody to fill in for you and thus your absence will not clock up work-hours lost...

It is deciding that you—just **YOU,** one person among all the tens of thousands—won't be missed if you stay out a day or so, and you go shopping, or visit the beauty parlor, or attend a matinee or a card party...or take a trip...

Or, possibly, you are having friends in for dinner, and you need time to prepare for your guests. Then you don't go to work that day so you can get ready for the evening...

**THAT** is **ABSENTEEISM!**

In soldier parlance, it's called **AWOL**.. Absent Without Leave.

In less polite language...it's **DESERTION!**

During wartime, a soldier who goes **AWOL** generally is shot. **YOU** won't be shot, of course, not even bruised... but you **DO** represent a line of defense—the second line of defense—and by being **AWOL** you are letting down all those fine brave lads who make up the first line of defense, who are over there across the world, far away from home and loved ones—perhaps from **YOU**—fighting for you.

You are throwing a monkey-wrench in the war effort, just as surely as any soldier going **AWOL** lets down his pals on that first line of defense.

Multiply yourself by the thousands of others who that same day decide to take that day off, even as **YOU**—"surely *I* won't be missed."—and you are preventing your company from turning out that extra plane or tank or big gun which might have been the means of saving some loved one's life...of winning a battle, even.

Do **YOU** want to be guilty of **ABSENTEEISM?**

It's only human nature to want to take a day off now and then. When that old alarm clock jingle-jangles before sun-up, crying out blatantly it's time to get up, it's time to get up, you wouldn't be human if in your half-asleep condition you didn't think, "Wouldn't it be swell if I could just turn over and really snooze."

Or say to yourself, "It's going to be too nice a day to work—I'd just like to loaf."

No one can blame you for this. You'd be the Eighth Wonder of the World, the marvel of the universe, if these thoughts didn't sometimes flash through your mind...or occasionally you didn't want a day away from the shop.

**BUT**...the boys in the fox-holes, in the steaming, fever-laden jungles of the Solomons, the burning, scorching sands of the desert—these boys can't take days off.

They can't, because they're fighting for their lives, and for **YOUR** lives.

Oh, yes...**YOUR** lives, too, though it seems so far away. If they don't hold those lines, the enemy will press onward, and onward, until this country of ours is the battleground, and not the far-distant lands of the earth.

Knowing what they know—and what **YOU** should know and realize—those boys at the front wouldn't take a day off if they could.

They recognize the great and vital

truth that every day they fight, so will the war be over and won one day sooner.

By not being 100% on the job yourself, **YOU** are helping keep those boys away from their homes and keeping them on the fighting front just that much longer...

**YOU** are prolonging the war to an undetermined degree...

**YOU** are proving a boon and an ally to the Axis.

For you are denying our boys the aid which is due them, which they must have to triumph over the enemy...**YOU** are preventing them from receiving the full measure of supplies, the planes, tanks, ships, the guns and ammunition and all else the army must have at its command, if victory is to be ours.

Boys and men—many of them maimed and crippled for life, who have given their all—returning from the far fronts of the world cannot believe their eyes and ears when they read and hear the great toll **ABSENTEEISM** is taking in production.

To these men who have seen war in all its awful horror, and know what lack of supplies means, **ABSENTEEISM** signifies but one thing...a willful blow at production, production of supplies which constitute the life-blood of our army.

Not long ago, an Army flier, Lieut. James Whittaker, spoke before a Los Angeles group and was wildly applauded. He had just returned from the South Pacific, where he gained first-hand knowledge of conditions there. He flayed **ABSENTEEISM** in war plants by emphatically declaring:

"The workers not producing all they can are denying our men in the South Pacific the right to live, because they are keeping from them materials that they need to live by."

Actual figures on **ABSENTEEISM** are alarming—frightening, in fact, when you consider their seriousness, how they take away from production and the war effort.

First of all...for every single work-day lost through **ABSENTEEISM**, the welfare, the well-being, the life, even, of some American soldier, sailor or Marine is endangered, very likely may be forfeited.

Consider, then...26% of the workers of the great Boeing plant were absent, the day following Christmas.

There was **ABSENTEEISM** to the extent of 11,000 employees in the Douglas airplane factory, that same day.

Think of it...the loss incurred in these two plants alone on a single day. A loss which can never be made up.

And remember...women provided the greater majority and share of this **ABSENTEEISM.**

Douglas reports that time taken off by employees, not those legitimately sick or who have valid excuses, but workers who deliberately stay away a day or two, during one month would have built 41 bombers.

### 41 BOMBERS!

Why, 41 bombers might have changed the tide of Bataan and Corregidor.

41 bombers might have stopped the Japs at Java.

41 bombers in one month!

Multiply that figure by 12, by each month of the year, and you have a total of 492 bombers. 492 bombers which might have been built in one year, by one company...had not **ABSENTEEISM** reared its ghastly head.

By staying away from your job a single day, **YOU** are helping build a stop-gap, **NOT** a plane, or whatever your efforts go for in defense. It is **YOU** who are hindering the war effort, even though a single day off may seem so inconsequential to you.

It is **THESE** very days off which are taking their dreadful toll in defense. Did you know that **THESE** days off are losing to the war effort more than 6,000,000 man-days per month, **EVERY** month?

This is an official figure. It comes from the War Production Board, which is doing everything in its power to combat **ABSENTEEISM.**

Conversely, as an example of what man-hours and days **SAVED** means in war plants...Consolidated Aircraft in San Diego, Calif., announced that reduction in **ABSENTEEISM** during the preceding four-week period was sufficient to construct an additional **SIX AND ONE-HALF** Liberator bombers.

Makes you think, doesn't it?

**ABSENTEEISM** is the greatest curse of Industry...it is the bottleneck of production.

**YOU** can help eliminate it by being on your job, on time, **EVERY** day.

Stamp out **ABSENTEEISM.**

It's up to you...**YOU.**

Perhaps it never occurred to you that **YOU,** in your small way, are in any way slowing down war production. Maybe you've never connected your job with the war effort.

If your job weren't necessary, you wouldn't be holding it.

This may sound like a lot of hooey, but it's true. Industry today has no place for non-essentials. No matter how remote your job may seem to defense, it still pertains to defense and must be done. Ask the woman next to you how it's linked up with production—if she doesn't know, ask the foreman or the boss. They'll tell you, and **WHY** it's important.

**EVERY** person in **EVERY** plant is there for a purpose. That purpose is to help win the war.

Remember that, the next time you consider taking a day off to buy a new dress or sleep late. You'll realize then how necessary it is that you be on hand at the plant, and how your **ABSENTEEISM** affects defense.

**YOU** are **ESSENTIAL.**

**YOU** are **NEEDED.**

You may doubt that, as you find yourself on a crew with more women than are absolutely required. You tell yourself… "there's enough to turn out the work today, so I'll stay home." That may be, but if several of your particular group decide likewise to miss that day, then the others cannot do the work required and production will be retarded.

Silly as it may seem, those extras in your crew are there for a reason. They are there to see that the work is done, if someone legitimately is sick, or hurt, or must drop out for a day or more because of illness or death in the family. It seems like a waste, having those extras on the crew, but the wheels of production must be constantly well oiled and they are there to see that no woman-hours are lost.

Again…you have to wait half an hour, one hour, three, waiting for material with which to proceed with your job.

Again you tell yourself you aren't needed, with materials moving so slowly.

But you **ARE** needed. Remember it's war, and that everything cannot run as smoothly as during peace-times.

Don't be swayed into believing you won't be missed because materials aren't moving fast enough to matter. They may come through next time with a rush, and your absence would hinder your crew and interfere with turning out its work on time.

You may not be feeling so chipper, and decide to take the day off. Unless you are flat on your back, you should by all means endeavor to show up for work. There are thousands of boys overseas who aren't feeling like fighting, either, but they go ahead just the same.

Try to remember this, when you are debating whether to go or stay home, when you feel kind of rocky. Of course, if you're really sick, there's no question but what you should stay in bed, so you can recover that much sooner and report back to your table or bench.

If your husband is sick, see if he can't take care of himself. Naturally, no one wants you to leave him if he's in a dangerous way. Very often, however, a cold bad enough to keep him in bed does not require you to stay home yourself to spend the day looking after him. Put it up to yourself frankly and sensibly... does he absolutely need you? Ten to one, he'll tell you, too—and honestly—that he can manage very well for himself. He isn't trying to hurt your feelings if he tells you this...he knows the value and importance of your being on the job.

In the case of children—if there is nobody to look after them—cast around and see if some neighbor cannot care for them during the day. If not that, then try to find a day nursery. More and more localities are establishing these day nurseries for the benefit of mothers who work in defense, so the chances are excellent you'll be able to deposit your children for the day with perfect safety and absence to yourself of any worry. Of course, if your plant provides a nursery of its own, then your troubles are over. At any rate, if this problem confronts you, have a talk with one of the nurses. There's little doubt but what your problem can be settled satisfactorily.

If you're considering taking a day or so off to look for a new room, apartment or house, before you do this see if your plant has a housing director. Many companies have facilities today for finding living quarters for their employees, so the workers won't lose time in searching new locations. If there is no housing director, your foreman or someone else in charge may have some ideas on the subject. Concerns do not want their employees to take time off from the war effort, so more and more they are finding ways and means to satisfy their wants and desires without the worker resorting to **ABSENTEEISM.**

It takes you an hour to get to work in the morning. Maybe more. For that reason, you are going to stay home that day because you simply don't feel up to fighting transportation, standing up all the way to work on the street car or bus. Then, repeat the whole process going home.

No one blames you for not liking this. No one does. But there's work to be done, our fighting men must be provided with supplies, and if you don't go to work—and hundreds and thousands of others don't go to work that day because of transportation difficulties—there aren't going to be enough supplies to matter and our soldiers and sailor boys are going to be killed for lack of equipment.

Those boys are making terrific sacrifices to fight the enemy. Can't you—safe here at home, far from the roar and blood of battle—likewise sacrifice a little?

If you drink, do so with moderation so you won't have a hangover in the morning. Much **ABSENTEEISM** is caused by workers drinking not wisely but too well, with the result that when the alarm goes off a throbbing head and butterfly stomach say Nay, Nay to going to work that day.

Overtime is fine, but don't allow it to interfere with your health. A few dollars less per week, in the long run—with no overtime—probably will amount to as much or more than if you amassed considerable overtime, for then, very likely, you would have to take time out to rest up or recover from a sickness which the longer hours would not allow you to throw off.

No company wants you to work overtime if your health is to be affected. Sickness cuts down productivity, and plants nowadays in these war-times are geared for the highest efficiency. So, rather than take advantage of more money and suffer poor health—if longer hours aggravate sickness—content yourself with less hours with a little less income **AND** the best of health. You'll be happier if you do.

Many women are working now for the first time in their lives, getting a sizable salary check every week which doesn't have to go for groceries and to pay the rent. With all that extra money in their jeans, they're fairly itching to spend it. After a few weeks of work, they decide they'd like to take a day off, two days, perhaps, and go on a shopping spree.

By taking days off to spend that money, you aren't playing fair with those boys overseas who are depending upon you to provide them with fighting equipment...you are helping deprive them of material they must have to win this war.

Your Uncle Sam needs cash, lots of it, to carry on this war.

It's mighty nice to have a savings account at the bank, something you know you can draw on at any time.

Why not for once do the practical thing, forget all about taking that day off now when your services are needed so desperately. On your regular day off, spend what you like. And spend as much as you feel you can—then some more—for war bonds.

But don't—**PLEASE**—indulge in a spasm of **ABSENTEEISM,** merely for the pleasure of shopping. That's not cricket, in these days.

Shopping for food is another reason why so many women drop out once a week, to do their weekly marketing. They find they are too tired to shop after work, or shops are closed by the time they get there.

Form a community shopping pool. Arrange for neighbors who aren't engaged in war industries to shop for you, yourself doing a favor in return. Shop early, if you can, before you go to work.

Don't be absent because you have marketing to do. Use your ingenuity, so you can still continue to serve your country and the boys overseas.

If you're away from home and engaged in industry, and you have a healthy dose of home-sickness...probably that homesickness case of yours "ain't nothing" compared to those poor kids in the Army and the Navy.

Sure, it would be elegant to go home

for a few days. But there's a telephone on which you can talk to the folks, and it's not so expensive. Even though the Government asks you not to use the wires any more than necessary, you can pinch in once in a while—if not too often—to put in that call.

And perhaps one or more of your family can visit you, so you won't be away from your job. It's worth trying, isn't it?

You're missing out on recreation? You need more exercise? All right, there's bowling and skating and dancing and various other sports and pastimes which you can indulge in, regardless of your shift or the earliness or lateness of the hour. Theatres, too, these nights are staying open later, many of them all night for those war workers on the swing shift.

Suppose you like to fish or mountain climb or some other such sport which would necessitate your being away for a day or so. Can't you forget these for the duration, and take up something else which wouldn't require your missing that day or two at the plant? Use a little headwork, and it's amazing what you can find to occupy you.

Associations, too, can be widened. You can cultivate new friends, without dropping your old ones, and still not be out of the swim of whatever social circle you enjoyed before you entered defense. You can go in for new forms of social activity which would open up new interests for you, all the while you continue to report for work every morning instead of indulging in **ABSENTEEISM.** It's really wonderful what you can figure out for yourself these days, with most of your friends in the same boat as yourself.

Maybe you have a peeve or a "mad-on" at your boss. Something has come up to upset you, so you're going to try to compose yourself by taking the day off, far away from the old buzzard.

Chances are, whatever came up between you and the boss, wasn't personal. The boss has so many griefs and so much on his mind that very often he seems to bark when he doesn't mean to—in fact, he'd be surprised if anybody called it to his attention. Try to see things his way, what he has to contend with. In all probability, your troubles will vanish into thin air as being too inconsequential to even try remembering.

Besides, you're really not working for him. You're working for Uncle Sam, for those boys overseas who don't know the meaning of hours and high pay and sanitary surroundings. You're working to get them back here as soon as you possibly can.

The times are too stirring to be concerned with petty differences.

Try banking by mail if you can't readily get to your bank without taking the day off for that purpose. Or consult the paymaster or cashier...perhaps you'll find it possible to do all your banking within the confines of your plant. Some industrial concerns provide banking facilities right there on the premises.

Don't forget your badge or identification card. If you do neglect to take it with you, though, be sure to go back and get it. You may be a bit late, depending, of course, upon how far you are away from home when you discover it's not with you...but at least you'll be able to put in most of the day at your bench or machine.

**DON'T** take the day off merely because you'll be late, for this or any other reason. Those few extra hours may be the means of finishing something just a little earlier which will save a regiment, or a battery's life. By official statistics, it takes 15 workers turning out equipment, supplies and food to maintain every fighting man in the field.

Those beauty appointments, too, manicures, waves, everything for which you once spent hours on end...and for which you in the past may have indulged in **ABSENTEEISM** so you wouldn't miss them, so you could keep yourself smart and trim...Can't you try to figure out some means for still patronizing beauty shops without taking time off from your work?

And the same with all your shopping, when there are certain things you just must have?

Can't you budget your time more carefully, more thoroughly, so you may enjoy greater benefits of that time?

It would be well to consider this seriously. "Circumstances" alter cases is somewhat of a bromide, but it can be made to apply in these times, when every minute counts.

**DON'T** be a stop-gap, a bottleneck, to Industry. The times are too precarious for anyone to even think of being absent from his work, for any reason less than serious illness or death or some other vital cause.

Loss of a single worker for even one eight-hour shift slows down war production...and that is something the United States cannot afford.

You believe in your country, don't you...in patriotism, and loyalty to the cause?

**DON'T** be an **ABSENTEE.**

Hollywood has gone 100% out for the war effort.

Its stars and players have called a halt to their own pleasure-making for the duration, so they may dedicate themselves to the all-important task of entertaining service men and boosting their morale. And selling war bonds, too.

These people you know—by name, at least—once through at the studio with their day's work—which generally starts with their rising before six o'clock in the morning so they may be at the studio by seven to spend two hours being made-up, to report on the set at nine ready to go before the cameras...these actors and actresses then pile into cars and drive sometimes as many as 100 miles away, to put in an appearance at some army camp where it is felt they can bring a little happiness and a little cheer.

Having sung, perhaps, or put on an act, or just mingled with the boys, they return to Hollywood and fall into their beds, sometimes as late as three and four o'clock in the morning, to snatch what little sleep they can before rising again a few hours later to leave for the studio. And to go out again that night on another camp visit...or make an appearance to sell war bonds.

When a picture is finished, most stars and players go out on extended tours, to rouse interest among the public for the purchase of bonds. Every minute of these junkets, which is harder work even than studios—and studio life isn't all it's cracked up to be, despite the general impression—is planned...there is no time for personal enjoyment.

One night stands...long train rides with constant halts due to troop movements and sometimes having to leave the train and wait long hours because of priorities...uncertain eating hours...loss of sleep and upset stomachs...the wear and tear that invariably accompanies their appearances—these are only a few of the problems besetting them while they're out on these tours.

Up before dawn, to bed long past midnight. Players are always many pounds lighter and much thinner, weight they can ill afford to lose in their profession, when they return to Hollywood from these tours just in time to start another picture...and weary to exhaustion.

Then, the routine starts all over again. There isn't a star or player in Hollywood who isn't doing just that to help along the war effort.

If there were more minutes and hours in the twenty-four, those, too, would be donated to the war effort as well.

Carole Lombard was killed, mind you, in doing her bit. She had been to Indianapolis, where she sold more than $2,000,000 worth of war bonds, and was returning to Hollywood, where she would have continued to contribute her services to a cause she regarded as her own, when she died in flames.

"I hate a slacker," she was heard to declare in her vehement way, on countless occasions. She was always ready and anxious to do her part, and more.

Carole Lombard never could have been accused of **ABSENTEEISM.**

She would have cut off her right arm rather than have such stigma touch her.

Does such stigma attach to you?

There's one star who will never permit her name to be mentioned for her contribution. What she does is this... three and four nights a week she works from 1:00 o'clock in the morning until 7:00 a. m. downtown in Los Angeles, at the Fighter Command, working on the filter board by which every Army and Navy plane in the air is charted. Few women there even recognize her. But she goes down there religiously.

Hollywood has its faults, but **ABSENTEEISM** is not one of them.

Nor should it be any fault of **YOURS**.. **YOU** should shun **ABSENTEEISM** like the plague.

**YOU** can do it, too.

You can do it by planning ahead, by so arranging your activities and your home-life that you can do things after working hours instead of taking time off from your job to perform them...you can do it by sacrificing a little, by being a loyal, patriotic American.

You can do it so that your home obligations do not conflict with your **FIRST** obligation—to God and Country—and **VICTORY.**

**YOU** on the homefront...**YOU** are just as important as the soldier or sailor at the front, for without your effort, your production and your turning out materials with which he can fight, the man on the fighting front is helpless.

If America is worth living in, it's worth fighting for. And if it's worth fighting for, you can't let it down by being absent on your job.

Don't sell America short...**DON'T** be a **SABOTEUR.**

**ABSENTEEISM IS SABOTAGE!**

## REPORT ON ABSENTEEIS

N.Y. Times 8/30/43

### Factory Survey Shows Half Due to Sickness, Half 'Personal'

A slight drop in the number of man days lost through absenteeism, sickness and other reasons was recorded in May, compared with April, according to a report yesterday by the management research division of the National Industrial Conference Board. According to the survey, 41,500,000 man days were lost to industry in May, against 42,020,000 the month previous.

The report cited an average absenteeism loss of 0.8 day a man in May, compared with the same figure in April and 0.9 day in March. Figures for women were slightly higher in May than in April. Illness, the report continued caused 49.2 per cent of the number of absences, while 49.8 per cent were for personal reasons. Nonindustrial accidents accounted for only about 1 per cent.

Collins-WMC-3336

~~OFFICE OF WAR INFORMATION~~
WAR MANPOWER COMMISSION

For Immediate Release,
Tuesday, December 7, 1943

PM-4479

As part of its program to obtain maximum worker efficiency and to keep workers on the job, the War Manpower Commission will assist in the provision of adequate plant and community facilities and services wherever they are lacking, Chairman Paul V. McNutt said today.

When job absences, turnover rates or production lags are found to be due to such plant conditions as inadequate eating facilities, medical services or plant counselling, or such unsatisfactory community conditions as housing and transportation difficulties, inadequate health and child care services, shopping and rationing problems and the lack of commercial services and recreational facilities, the War Manpower Commission Area Director will take direct action through use of pertinent manpower policies, programs and directives.

Each Area Director will be instructed to assign a staff member specifically to this duty, Mr. McNutt said. State and Regional Directors will render any necessary assistance.

Area Directors will determine through investigation of individual plants the causes of time lost, quits or low individual productivity and develop a local plan to remedy conditions.

In those fields where the operating responsibility is lodged outside the War Manpower Commission, the Area Director will coordinate and channel the activities of the appropriate agencies so that their operations contribute to the full utilization of manpower and to keeping workers on the job. In areas which have been designated as Congested Production Areas, the War Manpower Commission representative will work through the local representative of the President's Committee for Congested Production Areas.

Washington headquarters of the War Manpower Commission's Bureau of Manpower Utilization will assist field officials in such matters as establishing working relationship with other agencies, expediting action on construction of specific facilities or on obtaining priorities for necessary equipment and making arrangements for the re-allocation or redistribution of rationed or unrationed commodities when needed in specific localities.

X-23603

June 3 '44
absenteeism

U. S. DEPARTMENT OF LABOR, WOMEN'S BUREAU, Washington

April 1944.

# ABSENTEEISM
(Unauthorized time away from the job)

## I. Extent

During the past year, efforts have been increased by plant management, labor unions, labor-management committees, and private and Government agencies, to determine the extent and causes of absenteeism in war industries. No complete country-wide statistical data are available. Records are kept by many individual plants, and scattered surveys have been made. Such sources, however, are for the most part of limited value because they cover too few workers and plants.

A. Bureau of Labor Statistics reports show weekly absenteeism rates for 28 selected war manufacturing industries, and give the proportion of women among the wage earners. The average rate for these industries in January 1944 was 6.6; absence rates for some of them were as follows:

| | Absence rate (weekly) | Percent women were of all wage earners |
|---|---|---|
| Shipbuilding | 9.0 | 10.8 |
| Airframes | 7.4 | 38.7 |
| Foundries (ferrous) | 7.1 | 7.1 |
| Radio and communications equipment | 6.5 | 62.1 |
| Aircraft propellers | 6.1 | 24.6 |
| Instruments and optical equipment | 6.1 | 42.0 |
| Screw-machine products | 5.7 | 35.0 |
| Small-arms ammunition | 5.6 | 44.5 |
| Explosives | 5.3 | 21.0 |
| Guns | 5.0 | 19.4 |
| Blast furnaces, steel works, & rolling mill | 4.4 | 8.6 |

From the above, it would seem that no conclusion can be drawn about the preponderance of women affecting the absence rate.

B. The National Industrial Conference Board reports on weekly absenteeism rates in December 1943, from 39 plants in 16 States, employing 113,816 persons, show a short-term absence rate of 375 per thousand for men and 649 for women, and a long-term absence rate of 118 per thousand for men, 157 for women. Illness accounted for 52.7 percent of the absenteeism; personal reasons for 47.1 percent, slightly greater for men than for women.

C. The Industrial Hygiene Foundation of America, Inc., in its survey of 54 manufacturing plants in 14 industrially developed communities in 10 States, obtained information on health problems of women, involving 131,000 women in widely varying types of war manufacturing, in 1943. Dr. C. O. Sappington, in charge of the study, summarizes absenteeism as follows:

> Sick absenteeism in women employees has always been higher than in men, especially in the long-time brackets. Generally speaking, accident frequency and severity is lower in women than in men employees. There is a general trend toward the increase of both nonindustrial sickness and industrial accidents in both men and women at the present time. This proportionate increase, however, is not as great as the apparent upward trend of the proportionate increase in absenteeism due to personal reasons, especially in women, for reasons of industrial and domestic adjustment. This is a problem which demands more critical study before any specific suggestions can be given as to control.

## II. Causes of Absenteeism

Absenteeism can be dealt with effectively only if the causes are known. Statistical data do not differentiate between voluntary and involuntary absenteeism, i.e., between casual and deliberate absence from work, and absence due to causes beyond the worker's control. The distinction is especially important in the case of women workers. Women are more subject to illness than men. Many women carry on two full-time jobs--home and factory. Absenteeism can be reduced only if industry and the community will cooperate to remove the causes of absence.

### a. Illness and Accidents

It is generally agreed that the major cause of involuntary absence is sickness.

The U. S. Public Health Service reports show that in 1940 the frequency of sickness and nonindustrial injuries lasting more than 8 days was 153 per thousand for women as compared with 96 per thousand for men. For 1941 the number of cases per thousand women was 163 as compared with 101 cases per thousand men.

For illnesses of short duration the excessive sickness rate for women is even more marked. One company reporting to the Public Health Service, for example, found that the annual rate of sickness of 1 day or longer was 1,561 per thousand women, and 894 per thousand men.

In addition, where both husband and wife are working, sickness among family members or children usually means that the wife rather than the husband remains at home to provide care.

### b. Fatigue

Fatigue due to continuous work with too little time for rest and relaxation is a direct cause of absenteeism. The worker takes time off to rest up, sometimes preventing serious sickness or nervous exhaustion later.

Long working hours inevitably cause fatigue. Night work makes it difficult for the worker to get sufficient rest. The 7-day week is particularly harmful. A General Motors study showed that absenteeism was greater where the workweek was changed to 7 days of 7 hours each than it had been when the workweek was 5 days of 10 hours each. One day off per week is essential to keeping down fatigue.

Working conditions in some plants, poor eating facilities, inadequate lighting and ventilation, increase fatigue. In some plants insanitary, crowded, and poorly kept restrooms contribute to dissatisfaction and uneasiness of women workers.

Transportation difficulties, long hours spent in travel at the beginning and end of the working day, crowded buses and streetcars and the necessity of standing for journeys of 30 minutes or more, all have been found to add to the worker's fatigue.

When the worker is a woman with home responsibilities so that her workday does not end at the factory, fatigue is immeasurably increased.

c. Home Responsibilities

Many women employed in industry also carry the major burden of running the home. This is even more true of married women who are entering industry for the first time under pressure of the war emergency.

Home responsibilities, which many such women must undertake, include marketing, cooking, care of children, house cleaning, laundry, shopping, and numerous miscellaneous chores. All these must be done in the worker's time away from the job, and contribute to absenteeism.

d. Housing Shortages and Transportation Difficulties

Makeshift housing such as trailers, tents, and frame shacks cause inconvenience and unrest among workers, so that they spend time looking for new quarters. Insanitary conditions also lead to sickness.

Crowded housing facilities around many war plants often make it necessary for the worker to live an unreasonably long distance from the plant, and indirectly result in absenteeism.

e. Other Causes--Voluntary Absenteeism

Some causes given by employers and others who regard most absenteeism as deliberate and intentional are: High wages, making full-time work unnecessary; drunkenness; fishing; movies, and other diversions.

Some causes of absenteeism advanced by labor unions are: Inefficient management; lack of planned production; lack of good supervision; poor factory morale.

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Home responsibilities, which many such women must undertake, include marketing, cooking, care of children, house cleaning, laundry, shopping, and numerous miscellaneous chores. All these must be done in the worker's time away from the job, and contribute to absenteeism.

d. Housing Shortages and Transportation Difficulties

Makeshift housing such as trailers, tents, and frame shacks cause inconvenience and unrest among workers, so that they spend time looking for new quarters. Insanitary conditions also lead to sickness.

Crowded housing facilities around many war plants often make it necessary for the worker to live an unreasonably long distance from the plant, and indirectly result in absenteeism.

e. Other Causes--Voluntary Absenteeism

Some causes given by employers and others who regard most absenteeism as deliberate and intentional are: High wages, making full-time work unnecessary; drunkenness; fishing; movies, and other diversions.

Some causes of absenteeism advanced by labor unions are: Inefficient management; lack of planned production; lack of good supervision; poor factory morale.

## III. Methods of Reducing Absenteeism

In general, methods for reducing absenteeism may be classified in two main groups: (a) Direct appeal to the worker, through disciplinary action or otherwise; (b) Indirect cooperation with the worker by furnishing increased facilities and otherwise helping him carry his responsibilities. To date, discipline has been the most usual method in this country. Cooperation of the employer and community in solving the worker's problems has proved to be a successful method in Great Britian and is receiving increased attention here.

### a. Direct Appeal to the Worker

1. By the employer:

(a) Discipline

Nearly all employers interviewed by Women's Bureau field agents used disciplinary methods to reduce absenteeism. Some methods tried are penalty layoffs; probation; low-pressure follow-ups, such as home visits by personnel workers; telegrams and telephone calls to absent workers; removing the time card from the clock and substituting a warning card instead; requiring the worker to fill out a questionnaire; posting public record of absences; loss of annual vacation.

(b) Reward

Departmental contests for the best attendance; award pins and certificates; use of attendance records as basis for promotion and transfer; naming manufactured products for the worker with the best attendance record; attendance bonus.

(c) Personnel policies

Many companies are adapting their personnel policies to meet the growing problem of absenteeism. One method is to have someone who is capable of an understanding and sympathetic approach to the workers' problems interview workers who return to the job after an unauthorized absence.

The Secretary of Labor has recently suggested to employers that centralization of authority and adoption of a definite system of handling absences would help solve the problem in each plant. The Secretary's recommendations are: (1) Place one person in charge of absences, (2) Have untoward absences reported to him, (3) Analyze the causes of absences, (4) Discover which ones management, or labor, or both, can remove, (5) Keep absenteeism records which are standard with those kept by other factories.

2. By the unions:

   Methods reported include use of pledge cards for members; investigation of absences; personal interviews of chronic absentees; withholding of Sunday double time; work through labor management committees.

b. Cooperation in Meeting the Worker's Problems

Exhortation and other direct appeals to the worker are inadequate remedies for the problem of absenteeism because they do not correct the cause of the trouble. Problems facing women workers must be met by cooperation of employers and the community.

1. What the Employer Can Do:

   (a) Working hours

   (1) Moderate working hours for all workers: The 8-hour day and 1 day off in 7 should be the standard for all workers to prevent fatigue. Women's Bureau agents reported that one company had almost no absenteeism after they went on a 5-day week.

   (2) Planned hours of work: Where women have many outside responsibilities, the employer should arrange working hours to fit the worker. Not all women can observe usual factory hours and rigid shifts.

   (3) Part-time work: In England, part-time work has proved successful for women with home responsibilities. In December 1942, part-time workers in Great Britain numbered 500,000.

   a. Shift schedules

   Hours of shifts are adjusted as far as possible to suit the individual having the care of a home and children.

   Schedules for part-time work which have proved to be satisfactory are:
   2 part-day shifts; 7:30, 8, or 8:30 a.m. to 12, 12:30, 1, or 1:30 p.m.
   1, 1:30, or 2 p.m. to 5, 5:30, 6, 6:30, or 7 p.m.
   Reduced day; 9 or 10 a.m. to 3, 4, 4:30, or 5 p.m.
   Part-of-week working; 2, 3, or 4 days a week, sometimes on alternate days.
   Evening shifts; 3, 4, 5, 5:30, 6 p.m. to 8, 9, 9:30, 10 p.m., or midnight.
   Week-end shifts
   Relief shifts
   Rush-hour shifts.

b. Suggestions for using part-time workers
   (1) Keep the part-time section separate.
   (2) Select work that can be finished in a single work period, or jobs of a repetitive nature that can be put aside until the next work period without interfering with production. (Containers should then be provided for storing the work.)

(4) Night work: Family responsibilities and care of children should be taken into account in assigning night work. Shifts should not be rotated too frequently, as the worker must have an opportunity to adjust to the change in sleeping and eating habits.

(5) Holidays and vacations: An annual vacation of at least one week is a physiological necessity. Though American industry has discontinued the practice of granting public holidays in the war period, it is notable that Great Britain has recently restored this practice and will give all workers a 3-day holiday four times a year.

(b) Plant facilities

The employer has a direct responsibility to safeguard the worker's health through: adequate safety devices; first aid and medical treatment; change houses for workers who handle toxic substances or work in hot and humid atmospheres; annual physical examinations; hot meals in the plant; lunch facilities; time for lunch.

The employer should provide well-kept and adequate restrooms, and should give employees at least two 10-minute rest periods each day in addition to the lunch period, during which the worker can leave the workroom.

(c) Transportation

Many employers have organized "car pools" so that workers will have better transportation. Some war plants operate their own buses where other transportation is inadequate. Staggering of working hours for each shift also eases the transportation burden.

(d) Morale

The employer has a major responsibility to maintain workers' morale. This can be done in many ways. Each worker must know the importance of his own particular job and its relation to the whole enterprise. Organized recreation, even by private facilities, has proved successful, such as bowling teams, etc. In England, an effective method of maintaining morale is to grant time off to women whose husbands are home on furlough.

2. What the Community Can Do:
   Any steps taken to lighten the woman worker's double load of factory work and housekeeping, or to improve her living conditions, will indirectly reduce absenteeism. Some of the methods found satisfactory in Great Britain which might be useful here are the following:

   a. Time off for shopping:
      One afternoon a week is allowed in many British plants, or in some cases 1 or 2 hours twice a week. Some firms have a relief worker who takes over as the regular workers take their turns at shopping.

      The Women's Bureau has reports of some war plants in this country that now maintain a mobile utility working force used as fill-ins for absent workers. However, no such plan appears to be in use for absences excused in advance.

   b. Shopping certificates:
      The British have worked out a system by which the worker can leave a "priority certificate" or a written order on the way to work, to be picked up at the end of the day or later in the week, so that the worker gets her share of rationed and unrationed goods. "Buyer certificates" are also used so that friends of workers can do their shopping for them.

   c. Change in business hours:
      In some areas both here and in Britain, stores are kept open later than normal to allow workers to shop in the evening. There is need for access to professional services at other than the established hours. Workers who must visit dentists, doctors, and lawyers usually must take time off from work.

   d. Communal food services:
      The British Government has recognized the importance of factory food service and may require any manufacturers employing more than 250 workers on war production to provide canteens. Many plants in this country lack satisfactory food facilities where hot meals may be purchased at reasonable cost.

      British Restaurants, which is the term used for emergency eating centers, furnish food at nominal cost to the general public. Many families make use of these restaurants for meals outside the home.

   e. Day care of children:
      Adequate provision to meet this need is an immediate requirement if absenteeism among married women homemakers is to be reduced.

   f. Improved housing facilities:
      In some areas workers are living in trailers, tents, and hastily constructed wooden shacks. In rooming houses, beds are occupied by workers in rotation, and highly insanitary conditions are reported. Communities can do much to relieve unsatisfactory housing conditions.

[illegible]

Miss Spring
Williams folder

September 27, 1945

Dean Lloyd K. Garrison
National War Labor Board
U. S. Department of Labor
Washington 25, D. C.

My dear Dean Garrison:

The General Electric and Westinghouse cases now before the War Labor Board have put emphasis on a question of wage determination not previously considered by the Board, namely the relation of differences in the "employment patterns" of men and women to the money evaluation put on the work of men and women.

In answer to your request for information on absenteeism among men and women, we are enclosing two reports issued by the Women's Bureau on this subject in 1943 and 1944. These reports summarize the results of a few recent studies concerning absentee rates, but point out that no complete country-wide statistical data are available. Moreover, these wartime studies do not offer any basis for conclusions regarding peacetime conditions.

The particular degree of differences between the absentee rates of men and women does not, however, seem to us the important issue. These differences relate to individuals not to job content. They may be taken into account in defining the eligibility requirements for assigning or promoting individual workers to particular jobs or in determining the merit pay increases to be given to individuals, but should not be used to establish sex differentials in rates for particular jobs.

As we have pointed out in a statement already submitted to the Board regarding these cases, discrimination against women in determining wage rates results in lower standards of living, tends to depress all wage rates and increases industrial unrest. In view of the recent developments in these cases, we feel that the Board should not only insist upon the establishment and continued use of the principle of "rate for the job" based solely on job content, without regard to the sex of the workers on particular jobs, but should specifically define the principle so that there is a general appreciation of the fact that historical differentials based on the "employment patterns" of women as distinct from men are inconsistent with this principle.

We feel that a clear statement from the Board on this issue would greatly contribute to the sound adjustment of wage rates in this postwar period.

Sincerely yours,

Frieda S. Miller,
Director

FM:CW:pac

Jan. 5, 1943,

York Times

# 6% IN WAR PLANTS ARE ABSENT DAILY

## Illness Is Found Chief Cause in Survey of Eight Factories With 40,000 Employes

## DAY AFTER PAY DAY WORST

## Mrs. Rosenberg Urges Change in Community Services to Accommodate Workers

Six out of every 100 workers in war plants remain away from their jobs daily, according to a report made public yesterday by Mrs. Anna M. Rosenberg, regional director of the War Manpower Commission.

The report was based on a study by technicians attached to the commission's regional office and covered eight large plants with 40,000 men and women on their payrolls. The industries included radio equipment, food products, foundry castings, airplane accessories, air compressors and electric power.

The report revealed more absenteeism among women than among men, and that measures tending to improve morale were important in reducing the percentage of absentees.

The study disclosed also that absenteeism usually was confined to a comparatively small group, averaging about 15 per cent of the workers in a plant.

### 50 Per Cent Off After Pay Day

The day after pay day, accordingto the report, was the worst day for absentees, failures to report for work amounting to 50 per cent of the total of employes in some casees. It was found also that only half the workers gave notice of their intention to remain away.

While illness was noted as the principal reason for absenteeism, other causes included nursing a baby or a hangover, attending a wedding or a wake, repairing the family car, cashing a salary check and difficulties for night workers involved in lack of shopping facilities.

A frequent reason for absence was "shopping for another job." This, the report pointed out, could be eliminated by agreements for full utilization of manpower such as one effected in Buffalo between industry and labor through the

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FRIDAY, MARCH 5, 1943.

# SAYS ABSENTEEISM COST US 100 SHIPS

## Admiral Land Tells House Naval Committee of Heavy Toll of the Year

## BACKS LEGISLATIVE CURBS

## Maritime Commissioner Says Reports to Local Draft Boards Would Help Curb the Evil

WASHINGTON, March 4 (AP)—Admiral Emory S. Land, chairman of the Maritime Commission, testified today that "illegitimate absenteeism" among shipyard workers was costing an estimated 100 Liberty ships annually. He endorsed legislation designed to curb absenteeism by requiring shipyard foremen to report to local draft boards the names of workers absent without sufficient cause, with a view to possible induction into the armed forces.

His estimate that 100 cargo vessels could be built in the time unnecessarily lost during a year was based, he told the House Naval Committee, on a survey made during November and December of 1942 and January of this year.

Man-hours lost in each of three weeks surveyed, he said, ranged from 2,372,000 in the week ended Nov. 15 and 2,373,000 for the week ended Dec. 15 to 2,389,000 for the week ended Jan. 15.

Of the total time lost, he said, 6.4 per cent was "unexplained," and "that means 100 Liberty ships per annum."

Emphasizing that his remarks were aimed mainly at absenteeism among ship workers of draft age, Admiral Land said "illegitimate absenteeism is a first cousin to slackerism."

"A work or fight order will help materially," he added.

Admiral Land said responsible labor leaders had given "considerable cooperation" in curtailing unnecessary absenteeism.

He estimated that about 40 per cent of the 1,000,000 shipyard workers were of draft age. The same percentage, he said, probably applied to 1,000,000 additional workers in occupations necessary to keep shipyards operating.

"Preventive medicine by Congress," Admiral Land testified, would be "far more effective" than regulations from a governmental agency such as the War Manpower Commission.

The admiral said he believed that legislation should provide that the cases of draft-age men guilty of unreasonable absenteeism should be handled by local boards, while those of men not eligible for the draft should be handled by some Washington agency, presumably the WMC.

told the committee, "is as desirous as anyone can be to eliminate absenteeism to the vanishing point. We have done our share and have tried to do our share to abolish absenteeism. But attempting to reach absenteeism by legislation is providing a cure that is really worse than the disease."

Cooperation between labor and management, he said, was the best procedure.

Mr. Alifas testified that not all absenteeism was willful. He said that fatigue, caused by long and hard work, often made it necessary for a man to stay home. Executives may claim to put in fourteen hours of work daily, he said, but "they are merely out of bed" that long.

radio equipment, food products, foundry castings, airplane accessories, air compressors and electric power.

The report revealed more absenteeism among women than among men, and that measures tending to improve morale were important in reducing the percentage of absentees.

The study disclosed also that absenteeism usually was confined to a comparatively small group, averaging about 15 per cent of the workers in a plant.

**50 Per Cent Off After Pay Day**

The day after pay day, accordingto the report, was the worst day for absentees, failures to report for work amounting to 50 per cent of the total of employes in some casees. It was found also that only half the workers gave notice of their intention to remain away.

While illness was noted as the principal reason for absenteeism, other causes included nursing a baby or a hangover, attending a wedding or a wake, repairing the family car, cashing a salary check and difficulties for night workers involved in lack of shopping facilities.

A frequent reason for absence was "shopping for another job." This, the report pointed out, could be eliminated by agreements for full utilization of manpower such as one effected in Buffalo between industry and labor through the WMC. The agreement there sought to eliminate "pirating" and "hoarding" of labor and to reduce labor turnover.

Declaring that absenteeism represented too great a loss of manpower from largely preventable causes and should be brought to an irreducible minimum, Mrs. Rosenberg suggested that management, labor and communities work together for readjustment of all everyday activities to meet the needs of the workers. Communitiees, she said, would have to readjust and expand the hours of all typees of services and facilities.

**Changes in Habits Urged**

To achieve 100 per cent attendance on jobs, Mrs. Rosenberg said, would require "many changes in habits, methods and routines, but they are necessary and should be made to speed the war effort."

"Laundry schedules can be rearranged," she explained, "and other steps can be taken by business establishments and civil authorities in different communities to help defense workers devote all their time to their vital jobs. Employers can do much toward making the jobs more attractive and pleasant for the employes. It has been found in our study, for example, that those plants which devote attention to improving hygienic conditions and provide adequate rest rooms and canteen facilities have a smaller proportion of absentees.

"Our investigation has also demonstrated that excessively long working hours have a tendency to increase absenteeism. The temporary gain in production is more than offset by the loss occasioned by fatigue, boredom and consequent absences. Overworking the worker does not pay in the long run."

Asserting that the problem seemed to be one of morale to a large extent, except in cases of unavoidable illness, Mrs. Rosenberg declared that the best approach to a solution would be through the labor management committees now operating successfully in industrial plants.

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week ended Jan. 15.

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The admiral said he believed that legislation should provide that the cases of draft-age men guilty of unreasonable absenteeism should be handled by local boards, while those of men not eligible for the draft should be handled by some Washington agency, presumably the WMC.

In the latter case, he explained, a morale-building program might be effective and might provide, among other things, for posting the names of habitual absentees in local postoffices.

Replying to a question by Representative Maas, Admiral Land said he agreed that willful and unnecessary absenteeism by war workers was similar to desertion of a soldier on combat duty.

Opposition to legislative action against absenteeism was voiced by N. P. Alifas, president of District 44, International Association of Machinists, an A. F. L. affiliate.

"Organized labor," Mr. Alifas

# WOMEN WORKERS UP 36.8% IN STATE

### Drop in Apparel Group Outside City Is Offset by Sharp Rise in Metals and Machines

NYT Mar. 6

Special to THE NEW YORK TIMES.

ALBANY, March 5—In January 36.8 per cent more women were employed in all manufacturing industries in the State than in January, 1942, the State Labor Department reported today. Of this number 21.9 per cent more were employed in New York City and 51.8 per cent more in other parts of the State. Employment of men showed an increase of only 2.3 per cent.

Individual industry groups showed a rise in women workers with a single exception. In the State, outside of New York City, there was a decline of 6.9 per cent in the employment of women in the apparel group. A year ago more women were employed in the apparel group than in any other industry.

In January of this year this was still true for total State and New York City, but in the rest of the State more than twice as many women found employment in the metals and machinery group as in the apparel group.

A decided drop in employment was felt in individual groups. This was explained by the shift from less essential to war industry jobs.

Male employment in the State increased in the year only in the metals and machinery group, miscellaneous manufacturing, apparel and food and tobacco.

Employment of women factory workers increased in all industry groups. The metals and machinery group employed 202.4 per cent more women in January this year than in January, 1942, and only 15 per cent more men. Miscellaneous manufacturing had 49.1 per cent more women and 8.1 per cent more men; food and tobacco, 33.1 per cent more women and 0.7 per cent more men, and the apparel group 5.2 per cent more women, 1.5 per cent more men.

## EQUAL PAY BILL PLANNED

### Proposal of Women's Trade Union League Is Due Monday

A bill specifying equal pay for equal work has been prepared by members of the New York City Women's Trade Union League and will be introduced in the Legislature Monday. The announcement was made yesterday by Miss Pauline Newman, vice president of the league, after plans to recommend a similar bill had been abandoned by the Women's Advisory Commission of the New York State Department of Labor.

Opposition from representatives of the Associated Industries of New York State, of the Retail Stores of New York State and from the C. I. O. voiced in recent closed conferences on the bill held in Albany was credited with having discouraged further action by the women's commission. This opposition, according to Miss Newman, is based on arguments apart from "the main and simple issue of paying women the same amount of money as men would be paid when they are doing the same job."

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A recent survey made by the Division of Women in Industry and Minimum Wage of the New York State Department of Labor supports the fact that in spite of recommendations by the War Manpower Commission women are not always receiving as much pay as a man would receive in the same post. More than 150 plants freely reported discrepancies in their wage scales for men and women.

Arguments expressed against the proposed ruling are (1) that no unnecessary new issues should be brought up for discussion in the Legislature at this time; (2) that it would mean increased expenses for industry; (3) that it would involve more inspectors in plants, and industry has too many around already, and (4) that this would necessitate a new mediation board to rule on whether or not a woman is doing equal work to a man's in many cases—and industry seeks no new boards.

BOB HOPE ·
"They Got

# How Much Absenteeism in D. C.?

## Illness, Shopping & Ration Worries Called Cause of Much Work Loss in U. S. Agencies

Loss of production in Government agencies under circumstances that in industry would be called "absenteeism" is costing the war effort in Washington thousands—possibly hundreds of thousands—of work days yearly.

A survey of Government bureaus made by this newspaper disclosed:

That attendance conditions varied from being called "appalling" in one bureau to "quite satisfactory" in another.

That most bureau heads actually were not aware of the precise extent of absenteeism in their own agencies.

That a great deal of excessive absence from work could be quickly remedied, in the opinion of many bureau heads and personnel officials, and that the community of Washington is responsible for a considerable amount of it — not the worker or his office.

That Government workers as a group are not guilty of flagrant absenteeism, altho it undoubtedly exists in varying degrees in different offices.

Despite the surprising lack of co-ordinated data, a careful check of Government bureaus revealed the following facts:

### War Department

Ten per cent of its pay checks are estimated returned each month for revision made necessary because employes are taking leave without pay. The Department is now making a survey of absence from work.

### Office of Emergency Management

Sick leave up 40 per cent in January for 1250 employes of Personnel Department and Printing and Duplicating Bureau.

### War Production Board

Five thousand applications for sick leave in the past December, some duplicated, out of 14,500 employes.

### National Housing Administration

Twenty-five per cent increase in sick leave in January among its 700 employes.

### Bureau of Foreign and Domestic Commerce

Thirty-three per cent increase in part-day leave. (A survey is now being made in all bureaus of the Commerce Department).

### Department of Labor

Robert G. Smith, Director of Personnel, says: We've a problem but it is no more a problem than elsewhere. One of our troubles is phony sickness and phony doctors who will certify to such illness. (Labor Dept. has limited sick leave to 12 single days yearly without doctor's sickness certificate; leave without pay for accidents, maternity, etc., can be obtained only on a doctor's certificate. Other leave is banned except a reasonable vacation.) "This thing of taking annual leave without reason is out," says Mr. Smith. Bureau of Labor Statistics, which employs more newcomers and young girls, is presenting a problem in the number of short-time leaves.

### Board of Economic Warfare

"A cursory survey shows there has been an increase in short leaves since inauguration of the 48-hour week," says its public relations office.

### Office of Price Administration

One official who refused to let his name be used said the situation was "appalling." A meeting was to be held to discuss cause and possible cure of absenteeism, he said.

### Office of War Information

Out of 1500 employes, 1200 leave slips were received in January. Many were for brief periods. This number includes both sick and annual leave.

### Federal Communication Commission

Employes "post leave slips all day long," said one official, and many workers are already drawing on their annual and sick leave.

### National Housing Administration

Twenty-five per cent increase in absence in January over previous months, it was stated, but no figures were made available.

### Agriculture Department

Soil Conservation Bureau: January, 1942, 209 sick leaves out of 725 employes. January 1943, 180 sick leaves out of 464 employes.

### Agricultural Adjustment Administration

January, 1942, 594 sick leaves for 1916 employes. January, 1943, 335 sick leaves for 929 workers.

### Commodity Credit (AAA)

January, 1942, 46 sick leaves for 175 employes. January, 1943, 64 sick leaves for 270 employes.

(A survey is now being made in all bureaus of the Department of Agriculture).

### General Accounting Office

Annual leaves average 15 to 20 days per employe per year. Officials state they are campaigning aggressively against leave without pay.

### Census Bureau

Dr. Leon Schwartz is making a survey among the 4450 employes at Suitland, Md. Out of a potential 115,700 working days in January, 1943, there were lost 17,955 working days, or about 15 per cent. This was divided as follows: Annual leave, 7 per cent; sick leave, 3 per cent; leave without pay, 5 per cent.

**NO ACCURATE PICTURE**

It can be seen from the foregoing statements of these various agencies that there is at present no accurate over-all picture possible. It is equally evident that while some of the figures—such as those Dr. Schwartz prepared for the Census Bureau at Suitland—might look bad in an industrial plant, they are not too far out of focus with traditional leave practice in Government bureaus. The Government grants more leave than industry. This practice has not been changed in any major way since manpower has become more scarce. Employes can not be blamed for taking what the Government gives as a matter of course. All leave—even all leave without pay—cannot be called absenteeism as will be shown in this survey.

Nevertheless, personnel men among the city's 300,000 Federal employes frankly acknowledge that there is an absenteeism problem. They suggest remedies ranging from intra-office "tightening up" to Capitol Hill action. No uniform move for solution has been made. Consensus among these personnel men and officials exonerates employes for most of the excessive leaves of absence where it occurs. They blame a variety of war time circumstances, such as transportation difficulties, bad shopping and ration board hours as well as fuel oil shortages which contribute to late-winter sickness. They would like to see a further rearrangement of shopping and ration board hours to accommodate the Federal worker to and from his job. There has been no visible official move to this end.

Here is what some of the personnel chiefs say:

### Federal Power Commission

J. B. Turner, personnel director: "Check on sick leave by nurses and medical officers. (This has been done by Government Printing Office for several months; Census Bureau has started it; so has Mr. Turner's office to some extent.) "Have administrative control of annual leave, limiting it to 11 days to be taken as vacation and not more than five days to be taken at a day at a time. Specific and periodic time off, say every three weeks, for shopping and outside business. Investigation of leave-without-pay cases would enter into any study of absenteeism."

### Department of Labor

Robert G. Smith, director of personnel, would check more closely on phony sickness.

### Civil Service Commission

Even in such an elementary matter as buying a loaf of bread, says its press relations bureau, "if the housewife leaves home, as many do, at 7 a. m. and does not get home until 7 p. m., she finds the stores closed. Similarly, for the necessary purchases in department stores, there is very little time available. Most stores have only one night when purchases are possible. Presumably, the remedy is to have more shopping hours not conflicting with office hours."

The Commission added: ". . . and if science could discover a sure cure for the common cold, absenteeism could be reduced 75 per cent."

### Federal Works Agency

A. J. Sarre, (personnel director): "Difficulty of carrying on the ordinary routine business of life under war conditions has undoubtedly contributed to absence from work. Intelligent planning of retail and service people is needed. Any adjustment that they would make as a convenience to 48-hour a week workers would make a big difference."

He said that among FWA workers, PBA had the greatest problem because it has a larger percentage of non-professionals, such as charwomen, etc.

### Department of Agriculture

T. Roy Reid, (personnel director) "Of first importance would be to give a half-day off per week. Employes can't shop and go to beauty parlors at night."

### Bureau of the Budget

R. S. Sampson (personnel director): "More convenient shopping hours would help."

### Office of Price Administration

"Better store hours and improvement in ration board hours would help," says Edwin Felker, personnel assistant.

### Department of Commerce

"We frequently have leave applications for shopping and other personal affairs. More evening shopping and better ration board hours would help," says Oliver T. Short, personnel director.

### Labor Department

Mary Anderson, director of the women's bureau: "Joint effort of community organizations is the key to the solution. Our widespread system of line production makes it impractical to give women workers time of for shopping." Miss Anderson suggested the British plan of giving women workers a certificate calling on merchants to give them shopping priority over non-workers.

Some personnel men who would not be quoted—apparently for fear of speaking out of turn—went so far as to suggest legislation reducing allowable leave for the duration. They referred to industrial figures in the Magazine Industrial Management and said the curtailment would mean that as against average time lost for sickness in industry of nine days annually for men and 12 for women, Government workers would only lose part of their now allowable 15 days sick leave; and that as against a cut to one week of average vacation in industry, Federal employes would lose but part of their 26 days.

**SOME CURTAIL LEAVE**

Actually, tho, the 26-day leave is not being allowed for vacation, most agencies limiting this type of absence to at least 16 days, some to one week. WPB has issued a memorandum suggesting one-week vacations.

The Council of Personnel Administration has appointed two committees to study the problem since The News inquiry began several weeks ago, but the committees thus far have no specific figures. Chiefs of personnel in various agencies can not tabulate them without assigning clerks to the task.

**SOME FIGURES AVAILABLE**

Several agencies are working on totals of annual sick and without-pay leaves for last year for purposes of The News' study. They will be printed as received. Meanwhile, here are figures, some complete, others not, from various agencies:

BEW: Annual leave per employe in 1942, average of 15 days; sick leave per employe in 1942, average of 5.5 days; leave without pay per employe in 1942, four days; total, 24 days. The leave-without-pay figure was explained as resulting, for the most part, from leave taken by new employes with no accumulation. BEW has 3200 employes now; the average for 1942 was 2000.

FPC: With little more than 750 employes, 9925 days were taken last year in annual leave; 4014 days in sick leave—or an average of 13.08 annual-leave days and 5.25 sick-leave days per person. Last December, annual-leave days totaled 1337, and sick-leave,

(Continued on Page 46)

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9 to 4:30

## Chiefs Don't Know Extent of Chiseling in Federal Bureaus

By JOHN F. CRAMER

I helped to investigate the problem of absenteeism in Government, and I believe it is much more serious than most Government executives realize.

It does exist.

And it exists on a fairly large scale.

The facts in the accompanying article, collected by other News' staff members, are borne out completely by my own conversations with Government officials—those who are aware of the situation.

Frankly, however, many of them are wholly unaware of it.

In fact, I found very few agencies that have really tackled the problem.

And not even these have gone after the problem in the same aggressive, all-out way it has been approached by private industry.

I'll go even farther and say that most Government administrators don't even know their agencies have an absentee problem.

For them I suggest: Take a look at the records, and then examine the enormous savings in manpower to be accomplished by a real, honest-to-goodness drive against absenteeism.

Finally, I do not believe that Government employes themselves are to blame for the situation.

I don't believe, for instance, that the average Government employe would insist upon 15 to 20 days' annual leave per year if his superiors appealed to him, as a patriot, to take less leave.

Nor do I believe that the rapidly increasing "shopping leave" would be necessary if Government administrators got together and persuaded Washington stores to stay open more nights a week.

Below are the principal causes of absenteeism in Government—and also some of the things that can be done to reduce it.

### CAUSES

Indifference to absenteeism on the part of first-string Government administrators, and ignorance of the real seriousness of the problem.

Absence of a co-ordinated, Government-wide campaign against absenteeism.

Wartime pressure and confusion in crowded Washington.

Transportation difficulties.

Idleness in some units resulting from the recent increase in the Government work week.

Increase in nervous strain and pressure in other units—likewise resulting from the longer work week.

Winter weather and cold epidemics.

Inability of working wives to obtain satisfactory domestic help.

Bad air in some buildings, and low temperature in others.

Rationing—and with it the necessity of spending long hours at rationing boards, open, for the most part, only during office hours.

Inadequate personnel program in some agencies, especially inadequate employe relations program to see that workers are properly adjusted.

Shortage of physicians.

Fuel rationing at home, with resulting increase in illness.

Absence of medical programs in most agencies to protect the health of employes.

Shopping difficulties.

Sick leave requests from employes who are not really ill.

### CURES

First and foremost, Government administrators must interest themselves in the problem—and seriously attempt to do something about it.

Next, they must campaign against absenteeism in the same way that industry does.

There must be greater emphasis on car pools as a means of solving the transportation problem.

The day nursery idea must be promoted to the utmost to help solve the difficulties of working mothers.

Some system should be worked out to give working wives (and mothers) a degree of priority on domestic help. In these days it can be argued that non-working women no longer are entitled to servants.

If possible, local rationing boards should be encouraged to take special steps to adjust their hours to the needs of Government employes.

Legislation should be sought to permit Federal agencies to develop and expand their medical programs—with a view to heading off illness before it ever develops.

Employe relations programs should be expanded, particularly in some of the reluctant, old-line agencies.

If stores remained open at least three nights per week for the accommodation of those who work by day, much lost time could be saved.

Sick leave "chiselling" should be checked—a difficult problem, but not impossible.

Legislation could possibly be developed permitting Federal employes to accumulate an unlimited amount of annual leave. This would encourage them to save leave—instead of using it up, altho there are definite managerial problems involved. At present, employes can accumulate only 90 days all told, and no more than 15 days per year.

As part of the over-all campaign against absenteeism, Government units should be encouraged to compete, month by month, for the best "attendance" record.

Gen. de Gaulle will prove no dud.

# Absenteeism

(Continued From Page 3)

449, compared with 753 and 416, respectively, for January of 1942.

**PARTIAL LEAVE GROWS**

Supporting opinion quoted in this article is the report from the Bureau of Foreign and Domestic Commerce that partial-day leave (two or three hours) has increased about one-third in recent months.

Altho the complaint—off the record—of one official in an office of 20 girls with a performance of at least two absent daily . . . "they don't realize we are at war" . . . seems justified in his case, the on-the-record response of Government workers to War Bond purchases indicates unquestioned patriotism and willingness to sacrifice when it is put up to them.

Also, officials stressed that leave without pay does not invariably mean absenteeism. It includes maternity cases, and persons kept from work by accidents and protracted illness. And earned leave includes annual accumulated-leave totals as high as 90 days to persons going into military service.

The general over-all picture, as accurately as can be gauged from discoverable facts, seems to show:

**1. That new employes, more than older ones, are taking up leave as fast as it accumulates, exhausting sick leave and then taking leave without pay.**

**2. That while the problem is generally recognized and personnel men agree it is serious, no uniform order has been issued to limit the peacetime leeway for absence—a leeway, whether taken advantage of or not, offering opportunity for absence several times greater than that in industry.**

**3. Most agencies, while professing concern over the problem, have not surveyed leave records with a view toward solution, and in some cases, for the purpose of a sound and thoro study as suggested by The News, refused to do so on the ground it would "take too much time."**

**4. There is a generally accepted belief among personnel men that young girls are the worst offenders and that there is a need for an educational program [illegible] them, yet none has been launched.**

**5. That short-time leave periods (day or less) have increased since the President established the 48-hour week, and were unusually high in some instances—during December, for instance, a holiday month in which Government workers were asked not to take time off for travel.**

**6. Time will have to be made in some way for better shopping facilities and attention to necessary personal affairs, sick leave should be scrutinized more closely in some instances, and a general educational campaign undertaken which will have as its object the conservation of annual leave.**

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N. Y. T. April 2 '43

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# FINDS WOMEN LOSE MORE TIME AT JOBS

## General Motors Says 'Short Period' Absences Are 60% Greater Than Men's

## HIGHEST AMONG MARRIED

## Saturday and Monday Are Bad Days—10% of Workers Do Bulk of Staying Out

Special to THE NEW YORK TIMES.

DETROIT, April 1—Absenteeism over the "short period" averages 60 per cent higher among women workers in General Motors Corporation plants, according to first conclusions reached from a survey of the problem of absenteeism, which is being made by the company.

"By 'short period' we mean during any week," Andrew T. Court, personnel official, explained. "The week is the basis of our investigation. And we exclude serious illness from our figures. Any one not seriously ill who is absent for more than a week is considered to have left our employ."

Asked why absenteeism was higher among women workers than men, Mr. Court said:

"We don't know and I doubt if any one knows. All we know is that a situation exists. For instance, we have found that workers, both men and women, usually attribute their absence to sickness, but our follow-up tends to disprove that. We find that absenteeism is much higher on Mondays and on Saturdays, particularly if the Saturday follows a pay-day."

He said that General Motors had checked with public health services and found that there was no increase in serious sickness, and added that a check with the experience of other companies indicated that "our figures are quite typical."

Mr. Court said the General Motors study had brought these other findings:

Absenteeism is higher among married women, although the ratio decreases according to the number of dependents.

Absenteeism is concentrated among a very small group. In the last quarter of 1942, Mr. Court said, 10 per cent of General Motors workers accounted for the majority of the absenteeism.

Absenteeism is much higher among women in the Summer than in the Winter. It tapered off during the Winter, "now it is increasing again."

Conditions in the labor market and economic conditions appear to have a lot to do with absenteeism. The survey indicates that high wages and absence go hand in hand. However, it drops sharply in plants which do not pay employes for days on which they do not work.

"Actually," Mr. Court said, "the situation is more serious than it appears, because absenteeism is more concentrated in plants whose products are needed most. These plants operate full time and the workers' earnings are higher. There is more demand for workers and therefore less job competition. The worker has less to worry about from the standpoint of losing his job.

"The best attendance records are in those plants which operate only part time. Workers there need the money they earn."

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# ABSENTEE LOSS PUT AT 39,400,000 DAYS

NYT. April 26

## January Figure Is for Illness, Nonindustrial Accidents and Personal Reasons Only

## INCREASE OVER 1942 SEEN

## Longer Hours and Rise in Number of Women Listed as Factors by Survey

American industry lost 39,400,000 man days in January as a result of absenteeism resulting from illness, non-industrial accidents and personal reasons alone, according to a report of a survey made public yesterday by the National Industrial Conference Board.

The board added that if absenteeism continued at the rate at which it has prevailed since September, 1942, it would mean the loss of 482,170,000 man days this year, an increase of 59,470,000 over the board's recent estimate for 1942.

These estimates do not include time lost as a result of industrial accidents or time spent on scheduled leaves of absence.

"Workers' hours have grown longer, and while longer hours result in greater plant production, they also increase sickness absenteeism and the tendency of employes to take time off for personal reasons," the conference board declared. "Women, who have demonstrated greater tendencies toward absenteeism, are replacing men in large numbers. Older men, who have less physical stamina and lower resistance to disease, are being employed by the thousands.

"At the same time, changing conditions in civilian life are increasing absentee tendencies. Bad housing conditions and inadequate, crowded transport facilities of towns in which war industries are located bring about increased rates of sickness and attack the physical stamina and well-being of employes before they even go to work. Food and consumer goods shortages make the shopping problem of married women workers more acute."

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"At the same time, changing conditions in civilian life are increasing absentee tendencies. Bad housing conditions and inadequate, crowded transport facilities of towns in which war industries are located bring about increased rates of sickness and attack the physical stamina and well-being of employes before they even go to work. Food and consumer goods shortages make the shopping problem of married women workers more acute."

The conference board pointed out, on the basis of its figures, that absenteeism in January averaged eight-tenths of a work day for men and 1.2 work days for women. At this rate the annual loss would be 9.6 days for men and 14.4 for women. These averages were computed from figures from forty-seven plants in twenty States employing 147,251 persons. The plants represented were about 78 per cent engaged in war production of one kind or another. About 21 per cent of the men and 20 per cent of the women were office workers. Of the employes covered by the survey, 26 per cent were women.

Average time loss has remained consistently high since September, 1942, the first month covered by the board's figures. These indicate that absenteeism is 28.6 per cent greater among men and 30.8 per cent higher among women than the rates computed by the United States Public Health Service for previous years.

DIVISION OF
PRESS INTELLIGENCE
1526-14th St., N. W.

NO.

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News (R)
Buffalo, N. Y.

DATE APR 29 1943
p.

# AVOIDABLE ABSENCE FROM WORK CALLED "KIND OF TREASON"

## Time Is Our Chief Weapon For Victory Regional Manpower Committee Warns

And if our lines should form, then break
Because of things you failed to make
The extra tank, or ship, or plane
For which we waited all in vain,
And the supplies which never came,
Will you then come and take the blame?
For we, not you, will pay the cost
Of battles you, not we, have lost.

With these words of an anonymous Marine, writing in a Pacific foxhole, as a theme, the Regional Manpower Committee today issued a unified program of what can be done about absenteeism. The accompanying chart gives the causes and cures of absenteeism, as outlined by the committee.

Asserting there has been too much talk about absenteeism, the committee report "attempts to focus enough light on *the subject to illuminate* the facets of the evil."

"We are dealing here with the subject of absence from warfare," the report points out. "Simply because the lines of actual fighting are of necessity drawn in North Africa is not reason why the war is further away than the preparation for it in our own safe plants.

### Called Moral Treason

"War is our lot now. It is here. Avoidable absence from work in the midst of war is more than shirking, or dereliction. It is a kind of moral treason.

"What is needed is the will on the part of all involved in warfare back of the lines to recognize the problem and do something concrete about it. Time lost now is energy never to be regained. Right now time is our chief weapon for victory."

Pointing out that workers cannot be on the job every day because there are good reasons for not being on the job, the report declares:

"But let's not kid ourselves. The reason isn't always good and beyond your control. There have been times, and you know it, when you just decided you'd like the day off and you've taken it.

### Fighting Together

"If there haven't, then this isn't talk for you and you can pass it

# CAUSES AND CURES OF INDUSTRIAL ABSENTEEISM

| CAUSES | CURES | Agencies Available for ASSISTANCE |
|---|---|---|
| **Illness** | | |
| LABOR-MANAGEMENT: | Sets up 1—a health education program<br>Sets up 2—recreational facilities | Municipal and State Department of Health and Industrial Hygiene; |
| MANAGEMENT: | Directs persuasive health education campaign, including periodic check-ups, employment of industrial nurses, study of environmental causes of illness. | County Medical, Dental and Nurses Associations; and |
| TRADE UNION: | Assists Labor-Management Committee in carrying out its health campaign. Adopts a medical care plan where possible. | Industrial Hygiene Division of the U. S. Public Health Service. |
| COMMUNITY: | Provides sufficient numbers of doctors and dentists near war plants. | |
| **Faulty Production Planning** | | |
| LABOR-MANAGEMENT: | Promotes suggestion procedure to channel worker suggestions for bettering production. | Manpower Utilization Division of the War Manpower Commission; |
| MANAGEMENT: | Anticipate problems and eliminate bottle-necks; establish channels to clear suggestions from employees for better flow of production. | Labor Production Division;<br>War Production Board. |
| **Housing** | | |
| LABOR-MANAGEMENT: | Works with community on housing plan. | Local Chambers of Commerce; |
| MANAGEMENT: | Works with community on housing plan. | |
| TRADE UNION: | Advises workers. | |
| COMMUNITY: | Promotes campaign to provide accommodations for existing homes for war workers and their families. Plans with appropriate public and private agencies to assure provision of ample new housing units. | Local housing officials and local representatitves of the National Housing Agency;<br>New York State Division of Housing;<br>Realtor Associations. |
| **Transportation** | | |
| LABOR-MANAGEMENT: | Sub-Committee devise plan with community and transportation companies. | Local transportation companies; |
| MANAGEMENT: | Develop "Share the Car" Program, provide charts in personnel office showing transportation means for each worker. | Employer and Trade Associations;<br>Board of Education; |
| TRADE UNION: | Co-operates with community and employers in proper program. | Transportation, the Office of Defense Transportation; |
| COMMUNITY: | Makes study of flow of traffic, reschedule buses and trolley cars | New York State War Transporta- |

Pointing out that workers cannot be on the job every day because there are good reasons for not being on the job, the report declares:

"But let's not kid ourselves. The reason isn't always good and beyond your control. There have been times, and you know it, when you just decided you'd like the day off and you've taken it.

### Fighting Together

"If there haven't, then this isn't talk for you and you can pass it along to someone else."

The report points out that either a worker passes up these casual days off or admits this is someone else's war.

"Some people talk as though there were some difference between men in uniform and the men and women on the production front . . . You can only answer that kind of misunderstanding with consistent, positive action to prove that you and the men in uniform are fighting together.

"You know you're all in the same army. You know that tens of thousands of American working men are fighting now. You can probably name a dozen of your own friends who are in uniform in the farthest parts of the world.

"You know what they're doing—and how well they're doing it.

### Doing "Darn Good Job"

"They know what you're doing—and they'll tell the world you're doing a darn good job, to the limit of your strength, because you, too, know what we're fighting for.

"And it's up to you to see that no one has reason to destroy the faith they have in you."

The Regional Manpower Committee, headed by WMC Regional Director Mrs. Anna M. Rosenberg includes: William Collins, AFL regional director; Joseph Curran, president of the CIO National Maritime Union; Victor Emanuel, president, Aviation Corporation; Marion B. Folsom, treasurer, Eastman Kodak Company; Clarence Francis, president, General Foods Corporation; Thomas J. Lyons, president, New York State Federation of Labor; Gustave A. Strebel, president, New York State Industrial Union Council (CIO), and Owen D. Young, chairman of the board, General Electric Company.

## Transportation

| | | |
|---|---|---|
| **LABOR-MANAGEMENT:** | Sub-Committee devise plan with community and transportation companies. | Local transportation companies; |
| **MANAGEMENT:** | Develop "Share the Car" Program, provide charts in personnel office showing transportation means for each worker. | Employer and Trade Associations; Board of Education; |
| **TRADE UNION:** | Co-operates with community and employers in proper program. | Transportation, the Office of Defense Transportation; |
| **COMMUNITY:** | Makes study of flow of traffic, re-schedule buses and trolley cars, work with Transportation Council of plant to coordinate activities. | New York State War Transportation Committee of State War Council. |

## Working Conditions

| | | |
|---|---|---|
| **LABOR-MANAGEMENT:** | Makes recommendations for improving sanitary facilities, light, ventilation, heat. | Municipal and State Departments of Health and Industrial Hygiene; Industrial Hygiene Division of the U. S. Public Health Service; New York Public Utilities Companies; and Division of Labor Standards of the U. S. Department of Labor. |
| **MANAGEMENT:** | Takes corrective steps wherever possible. | |

## Child Care Problems

| | | |
|---|---|---|
| **MANAGEMENT:** | Advises workers. | Board of Education; Department of Public Welfare; Councils of Social Agencies; Private Child Care Agencies; Defense Council Committee on Child Care; Department of Recreation; and Parent Teachers' Associations. |
| **TRADE UNION:** | Advises workers. | |
| **COMMUNITY:** | Establish Child Care Facilities to care for workers' children. | |

## Post Pay Day

| | | |
|---|---|---|
| **LABOR-MANAGEMENT:** | Interviews all chronic absentees, tells fellow workers cause of their absence. | Banks, department stores and local merchants; War Council, Recreation Organizations; Y. W. and M. C. A.'s; and other agencies conducting recreation and social activities; Department of Parks. |
| **MANAGEMENT:** | Change pay day to mid-week, or stagger pay days throughout week wherever possible. | |
| **COMMUNITY:** | Develops wholesome recreational facilities and adequate housing facilities for families of workers. | |

## Shopping

| | | |
|---|---|---|
| **LABOR-MANAGEMENT:** | Sub-Committee working with community establishes convenient shopping centers and hours. | Chambers of Commerce; |
| **MANAGEMENT:** | Cooperates with community and employers in arranging to keep stores open. | Employer and Retail Trade Associations; |
| **TRADE UNION:** | Cooperates with community and employers in arranging to keep stores open. | War Councils; |
| **COMMUNITY:** | Merchants set up grocery stores, department stores, and beauty parlors in or near factories, serviced at hours convenient to workers. Establishes "Volunteer Shoppers" program. | Local representatives of the Office of Price Administration;<br>War Production Board. |

## Rationing

| | | |
|---|---|---|
| **LABOR-MANAGEMENT:** | Set up Rationing Advisory Sub-Committee. | Office of Price Administration. |
| **TRADE UNION:** | Set up Rationing Advisory Committee. | |
| **COMMUNITY:** | Ration boards in plant, on nearby, open at hours convenient to workers. | |

## COMMUNIQUE

### M'ARTHUR

ALLIED HEADQUARTERS, Australia, April 29 (AP).—The text of the Allied Command's communique issued at noon today follows:

"Northwestern sector — Arafura Sea: Our medium bombers executed mast height attacks on two enemy cargo ships 90 miles north of Dobo, scoring a direct hit and a close miss with 500-pound bombs on the stern of a 2000-ton vessel and two near misses on one of 1200 tons.

"Northeastern sector—New Ireland: Dyaul Island: A medium bomber at night straffed the area.

"New Britain: Wide Bay: One of our heavy reconnaisance bombers successfully fought off an attack by seven enemy fighters.

"New Guinea: Saidor Area: One of our heavy units bombed Wilwilan Village, and strafed the coastal area from Nankina River to Mur.

"Finschhafen: A heavy bomber raided the airdrome, starting fires.

"Morobe Harbor: Under cover of darkness a single enemy plane dropped four bombs in the area, without damage or casualties."

## ALLIED SUB RAIDS MAKE JAPS BUILD SEABASE IN CHINA

CHUNGKING, April 29 (AP).—The Japanese are building a new naval base and two large airfields in China, a spokesman for the Chinese Army told a press conference today.

The invaders, alarmed at the increasing menace to their shipping by Allied submarines, he said, have begun construction of a naval base at a recently-occupied island northeast of Foochow. He said that the Japanese were using Q-boats—ships disguised as fishing trawlers and ready for quick action against unsuspecting prey—and that the crews were seasoned naval personnel who dressed as fishermen.

The enemy is building one large airfield near the Burma Road town of Lungling, possibly for intensified action against air bases in South China, and another near the Yangtze port of Ichang, presumably for operations against Chungking, the spokesman reported.

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# 56% RISE IS SHOWN IN PLANT ABSENCES

## N. A. M. Survey of 25 War Factories Lists Causes From Illness to Irresponsibility

## LATTER VIEWED AS WORST

N.Y. Times
MAY 19, 1943

## Included Are Hangovers and Trouble-Making—Many Remedies Suggested

As the result of a survey of twenty-five war plants, the National Association of Manufacturers reported yesterday that absenteeism in industry had gone up 56 per cent, or from an average of 3.48 per cent of workers absent every day before the war, to 5.42 per cent at present. The principal causes were listed as illness, accidents, housing and transportation problems, high earnings, inexperience in regular employment and irresponsibility.

The survey, made public in a thirty-page pamphlet that was sent to the 9,000 member companies, listed the "hangover evil" under the heading of irresponsibility. Observing that absenteeism was always highest on Saturdays and Mondays, the N. A. M. commented:

"Overindulgence resulting in a hangover is an evil that management has battled against over the decades. Then there is another class of employes who seem to be born troublemakers. They are not amenable to discipline, nor will they assume any responsibility. These two minority groups are responsible for a disproportionately large share of the absences wherever men are employed."

### Never Were Steady Workers

The survey recorded that the men in these categories were found to be those who never held steady jobs in peacetime. At present employers are more lenient. Some employers, however, are "resolutely dropping such employes from the payrolls, with the approval of labor management committees where those are in operation," and the N. A. M. warned that, "as time goes on more of the incorrigibles will be weeded out; it is a harsh remedy, no one wants to apply it, but no one has been able yet to suggest an alternative."

The survey was conducted by the association's industrial relations committee. It covered twenty-five large companies engaged in producing steel, glass, petroleum, chemicals, paper, automotive equipment, mining machinery, machine tools, refractories and ships.

Suggesting remedies, the survey observed:

"Once people are convinced that

the payrolls, with the approval of labor management committees where those are in operation," and the N. A. M. warned that, "as time goes on more of the incorrigibles will be weeded out; it is a harsh remedy, no one wants to apply it, but no one has been able yet to suggest an alternative."

The survey was conducted by the association's industrial relations committee. It covered twenty-five large companies engaged in producing steel, glass, petroleum, chemicals, paper, automotive equipment, mining machinery, machine tools, refractories and ships.

Suggesting remedies, the survey observed:

"Once people are convinced that their individual work is of vital importance, there will be very little voluntary absenteeism. Visits of men back from the actual fighting front are worth more than tons of posters or hours of pep talks. If men in the shops could see pictures of the tanks or the planes that they helped to make in action it would step up interest and morale amazingly. The big job is to bring home to the people that they are a part of the show."

### Health and Safety Measures

As health and safety measures the survey suggested pre-employment medical examinations, preventives of respiratory infections, convenient lunch facilities with well-balanced foods, sufficient time allowance for meals, nutrition information for employes' families, proper ventilation, proper sanitation, plant medical supervision, plant nurses, adequate safety devices and instruction, adjustment of work schedules to prevent cumulative fatigue and check-up of reported sick absences.

As morale building steps the survey suggested appraisal of applicants' aptitudes and responsibility, pre-employment explanation of rules and relation to war effort, information about relation of individual job to war, instruction of foremen on methods of maintaining morale, use of visitors from armed forces, information about ex-employes in service, monetary incentives, incentives other than monetary and plant posters and other exhibits.

The survey cited the plan in operation at the San Diego plants of Consolidated Aircraft, where every four weeks $5,000 is put into a kind of "bank-night" or drawing arrangement. Only those with perfect attendance records are eligible to hold tickets and seventy-three prizes are distributed. The drawing was said to have reduced absences by 20 per cent in the two plants.

Absenteeism

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COMPARE!

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SHIRTS . . . *now* 1.65 3 for $4.75
*Our Celing Prices are $2, $2.25 and $2.50*

Smart Large or Small-Figured
John David Fine-Quality
NECKTIES *now* 69c 3 for $2
*Our Ceiling Price is $1 each*

# WOMEN WORKERS KEEPING AT POSTS

### Survey in 11 Leading Cities Shows No General Growth in Plant Absenteeism

### TOTAL EMPLOYMENT GAINS

### Rate at Pittsburgh Up 50 to 100%—New York Discounts Exodus Reports

A canvass yesterday of eleven major industrial centers in the East and Midwest gave facts tending to contradict reports from Washington that women war workers were leaving their jobs in large numbers and that absenteeism was becoming a serious problem.

With the exception of Cleveland and Buffalo, reports showed a steady increase in the number of women workers and little more than the expected absenteeism.

There has been nothing in reports reaching the New York State Department of Labor to indicate that there has been any exodus of women workers from war plants during the last six months, Dr. Eugene B. Patton, director of statistics for the department, said.

"At the present time there are between 1,500,000 and 2,000,000—it is rally nearer 2,000,000—women employed in manufacturing plants throughout the State, Dr. Patton said.

### Increases in Pennsylvania

The rate of employment of women in the Pittsburgh area has increased 50 to 100 per cent in the last six months, while absenteeism in terms of hours lost is only 2½ per cent.

Philadelphia plants reported an increase in the number of women workers and a reduction in the amount of absenteeism.

The Chicago reports were similar to most of the others with personnel managers, describing absenteeim as "low, static, substantially increased" and "not alarming."

There are 22,000 more women working in Cincinnati plants than there were a year ago and absenteeism has been reduced from 5.5 per cent to 4.3 per cent, according to a report received from the city's absentee campaign chairman.

### BOSTON

Special to THE NEW YORK TIMES.

BOSTON ,Aug. 23—Employment of women has "increased considerably" in war industries in the New England area during the last six months, regional headquarters of the United States Employment Service reported today.

During July of this year women represented 43 per cent of the total of 11,019 placements by the bureau, and the greatest number was in war industries. July's placement of women was an increase of 110 per cent as compared with the same month in 1942.

It was impossible to get statistics on absenteeism. It is known, however, according to the War Labor Board, that small war plants with the war bond lottery scheme for perfect attendance have cut absenteeism in half. There is no break down of men and women workers available.

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In only one plant, the Army Quartermaster Depot here, where thousands of civilian workers are employed, was a decrease in the number of women workers reported and it was said to be slight. Col. Carl Geisler, director of personnel, said the decrease was the result of a cut in the rate of hiring at the depot, where a sharp cut in absenteeism among women workers was reported.

A spokesman for the Bendix Aviation Corporation and another for the Philco Corporation, said there had been a sizable increase in the number of women workers in the last six months, accompanied by a noticeable cut in the rate of absenteeism.

Similarly, the Frankford Arsenal, another government plant employing hundreds of women workers, reported an increase in the number and a decrease in the rate of

as oiling, shaping, drilling, welding, etc.

### BRIDGEPORT, CONN.

Special to THE NEW YORK TIMES.

BRIDGEPORT, Conn., Aug. 23—Women workers in the Bridgeport industrial area have increased substantially in recent months, United States employment officials and manufacturers said today.

A city-wide drive is under way to recruit women workers to replace men called into the armed service and to fill a long standing labor shortage in war plants. While prior figures are unavailable it is estimated now that women workers total close to 38,000 of 95,000 engaged in war work in this area and are constantly increasing.

No definite information is available on absenteeism as regards women. Employers say many women are working full time, many others part time or on an agreed schedule of time off to take care of their family.

### PATERSON, N. J.

Special to THE NEW YORK TIMES.

PATERSON, N. J., Aug. 23—The Wright Aeronautical Corporation which operates seven plants in the north Jersey area reports that its women employes have increased in number from 7,117 last January to 10,912 at present.

Being in the midst of a survey to determine the extent of absenteeism among all employes, the company can give no definite figures on the extent of absenteeism among women, but a spokesman said that the company is "very well satisfied" with its women workers and wishes it could get a "few thousand more."

The Wright corporation two weeks ago started a survey to determine the extent and causes of absenteeism. The total number of employes is now said to be 35,000 or above.

### BUFFALO

Special to THE NEW YORK TIMES.

BUFFALO, Aug. 23—Management and labor in the Niagara frontier's war plants are increasingly alarmed over absenteeism, which varied from 5 to 7 per cent last winter and has risen to an average of 9 to 13 per cent. In many plants the rate has doubled in a year.

The problem becomes more acute as the employment rate of women continues to rise. Labor leaders say that in the frontier's plane industry women constitute about 50 per cent of the labor force.

Labor says that long work weeks of fifty-six to sixty hours are mainly responsible. Management reports that an impression among all workers that the war is nearing its end is the cause. Both sides agree that women take time off for domestic duties such as paying bills and buying household necessities.

Between 25,000 and 30,000 workers are absent daily in the war plants of the frontier. It has been estimated there are 275,000 war workers in the area. Absenteeism costs the war effort at least 200,000 man hours every day. In the three plants of Curtiss, Bell and Chevrolet at least 10000 workers do not report for work each day. At least half of the absentees in Bell and Curtiss are women.

### CINCINNATI

Special to THE NEW YORK TIMES.

CINCINNATI, Aug. 23—Alfred W. Pecsok, economic analyist for the War Manpower Commission, reports 22,000 more women working in war plants here in July than in corresponding month last year.

Mr. Pecsok predicts that 6,300 more women will be needed in the next six months and says that more than 48,000 women are employed in war plants. Of 5,683 persons placed in war jobs in July, 1,971 were women.

John M. Baker, area director for the WMC, reports that applications were received from 500 women for war plant jobs last week.

Hudson Biery, Greater Cincinnati Absentee campaign chairman, declares that the twenty-seven child-care centers established here had played a big part in reducing absenteeism among women war workers. In one plant absenteeism among women workers has been reduced from 5.5 to 4.3 per cent in thirty days, he reported.

### CLEVELAND

Special to THE NEW YORK TIMES.

CLEVELAND, Aug. 23—This city's major war industries have hired 46,000 women in the last year and about 27,000 in the last six months to bring the number to 82,000, according to R. L. Davison, War Manpower Commission analyst. The 82,000 women represent 28.7 per cent of employes at 271 industrial plants.

Plant sin this city have hired 6,500 women in the last sixty days and it is hoped, according to Dr. W. P. Edmunds, Cleveland WMC director, that the number of women engaged in war plants will reach 102,000 by the first of the year.

Women workers show close to 25 per cent more absenteeism than men, according to a survey.

A consistent increase in absenteeism has been revealed in the last three months. Average of absenteeism in 198 plants employing 73,451 workers was 6.07 per cent in July. This compares with 5.71 per cent in June and 4.69 per cent in May.

### DETROIT

Special to THE NEW YORK TIMES.

DETROIT, Aug. 23—The number of women workers in Michigan war industry has been increasing for more than a year. Observers agree that absenteeism is greater among women workers than among men.

The number of women employed in 185 major plants in the Detroit area increased from 35,850 in June, 1942, to 71,800 in November. On March 1 the number in the same number of plants was estimated at 120,000, with a total of 150,000 in all manufacturing plants in the area. Sources of these figures say the trend has continued.

The State Department of Labor and Industry says that total employment increased 2 per cent in July, 1943, over June, but the number of women increased 6½ per cent. In all manufacturing in Michigan there are 212 women workers out of each 1,000 and in the automotive (war industry) field there are 168 out of each 1,000. Employment of women in automotive industry increased per cent in July over June, compared to an over-all increase of per cent in number of workers i that field.

### 'Alcohol Bait' for Starlings

LONDON, Aug. 23 (Reuter)—"Alcoholic bait" will be used th autumn in a drive to reduce Bri ain's big population of starling which do great damage to crop The new bait stupefies the bir and they are painlessly destroye Shoots also will be organized ar a special allocation of cartridg will be made for the purpose.

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### PITTSBURGH

Special to THE NEW YORK TIMES.

PITTSBURGH, Aug. 23—Women employes in Pittsburgh war plants have increased between 50 and 100 per cent during the last six months and absenteeism ranges around 2½ per cent in hours lost due largely, personnel experts contend, to natural ills.

Carnegie-Illinois district operations have doubled the number employed. Aluminum Company of America operations have increased women employes 50 per cent, as has the Bravo Shipbuilding Corporation, Heinz Food Company, Westinghouse, and the general run of smaller processing and fabricating firms.

Steel mills have some women crane operators, but the heavy dilution is in light machine work such

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cut to set lightly and correctly on the
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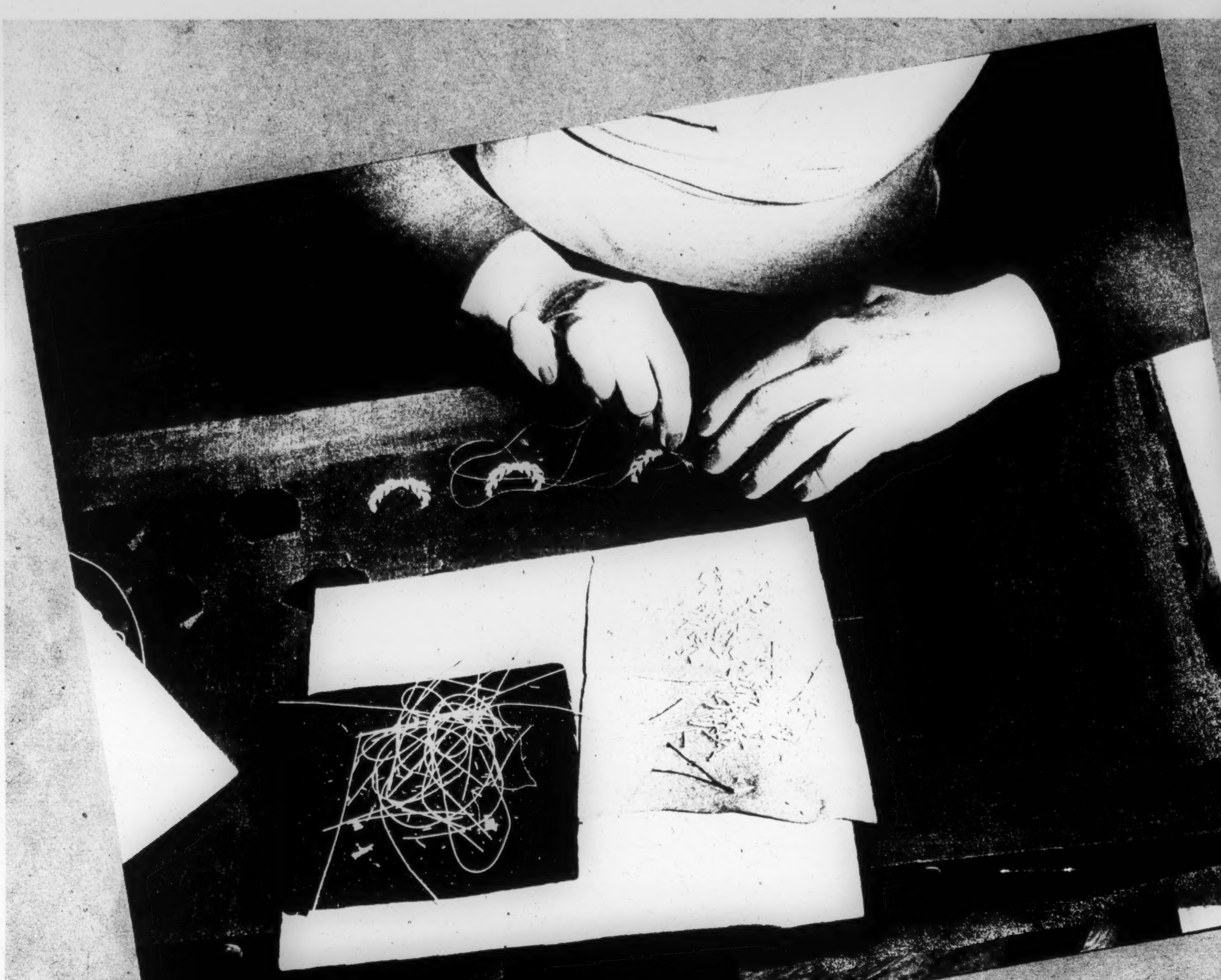

# An Old Cra
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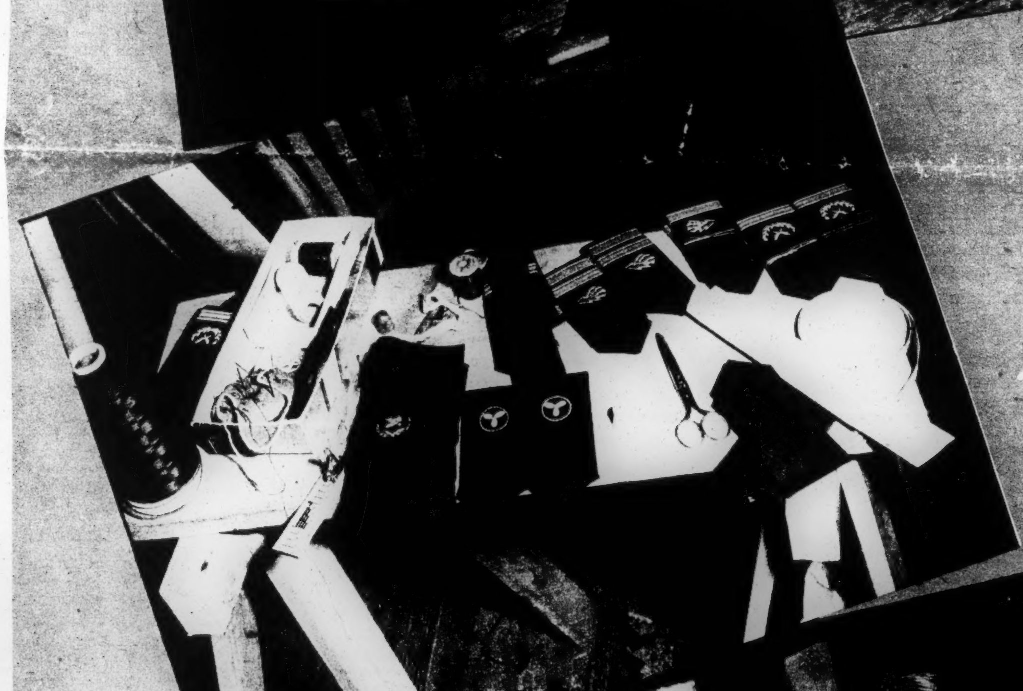

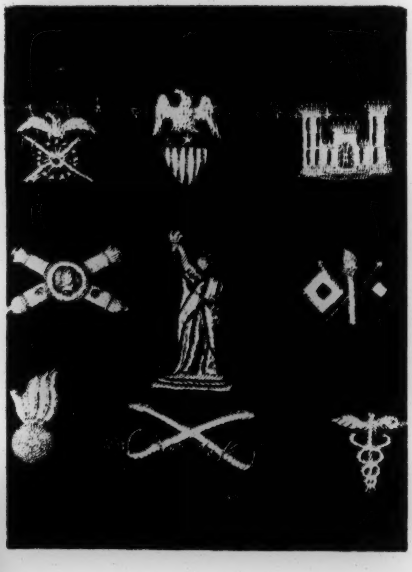

THE TRANSITION from old-world existence to life in the United States has been a long step for many refugees who have sought and found freedom—life itself—overseas in escaping from the oppression and slavery of Nazi occupation of their homelands. Most of them, however, have been amazingly resourceful and adaptable, and are now, after a few short years, leading new lives in their adopted country. Among the women the change from old customs and the old manner of living has been generally greater than among the men.

In former years they might have been professional women, women of leisure, teachers, librarians, secretaries. Their new circumstances, combined with the change in language and customs, have made resumption of former activities impossible, and with the practicality of their nature they have turned to handicrafts as the never-failing source of earning a livelihood. The women refugees from Austria, Czechoslovakia, and Germany have a

**Reading From Top Down and Across Bottom: Skilled Hands at Work on Tiny Wreaths for Merchant Marine Officers; Shoulder Marks for Navy; Czech Workshop Founders, Mrs. Ellen Lowry (Left) and Mrs. Mila Veger, Inspect Insignia Before Shipping; Stack of Cap Devices Ready to Be Embroidered; and Five Women Experts Busy at Embroidery Tasks**

# Craft for a New
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tradition of cleverness at handiwork, and many of them have gone back to the needlework of their girlhood days.

Mrs. Mila Veger and Mrs. Ellen Lowry, both formerly of Prague, Czechoslovakia, went into business as the Czech Workshop, where 60 Czech refugee women are now not only finding employment but working directly for the war effort. They are devoting their superb skill at embroidery to the making of Army and Navy insignia. Most of the women are doing their work at home, embroidering with gold and silver bullion the felt bases stamped with the regulation designs.

All orders are for the Government, but with most of the women having sons in the armed forces, an occasional "special order" is filled for one of those sons who has become an officer.

The accompanying shots by S. Latham of INP take you to the Czech Workshop in New York, where a special war industry is being conducted by a group of Uncle Sam's new nieces.

**Four Photos From Top Center, Reading Across and Down: Measuring Especially Fine and Expensive Uniform Cloth and Cutting Strips for Sleeve Pieces, Epaulets, and Caps; This Lady Has Cardboard Eagles, Shields, and Anchors, Which She Glues to Stamped Pattern—When Embroidered They Become Raised Insignia; Machine Stamps in Navy Buttons, Which Are Later Sewed for Greater Security. Lower Corner: The General's Hat Receives a Few More Beads of Gold. Real Gold Bullion Is Used for All These Special Government Orders**

# AMERICAN WOMEN AT WAR

*Fifteen crack newspaperwomen, representing press services and leading metropolitan dailies, undertook a transcontinental tour of war industries last August. They spent 15 days trudging miles and miles through humming factories to see for themselves and their readers the role played by women in the miracle of production which has made the United States States the arsenal of democracy. The following pages are unedited accounts by seven of the newspaperwomen who participated in the tour arranged for them by the National Association of Manufacturers.*

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THE NATIONAL ASSOCIATION OF MANUFACTURERS
14 West 49th Street, New York, N. Y.

A Publication of the
NATIONAL INDUSTRIAL INFORMATION COMMITTEE

# AMERICAN WOMEN AT WAR

*By seven newspaper women, members of a party of 15 on a coast-to-coast tour of war industries arranged for them by the National Association of Manufacturers.*

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# Foreword

*by*

**Mrs. William Brown Meloney**

**Editor, *This Week* Magazine**

NO person of judgment and Christian character will advocate war as a means of settling disputes until all other means have failed; and all of earth's peoples except the naturally bestial yearn passionately for the day when war will be forever banished from this globe.

But though we all hate war, we can extract some comfort from the fact that even war has a credit side. The great historic fires of Chicago, San Francisco, and London destroyed many lives and much property; but they also, as slight compensation, paved the way for better cities to rise on the ashes of the old.

The same is true of this global war, the most terrible catastrophe in all recorded history. Even it has its credit side. We should be cheating ourselves if we did not admit that; because until we admit the gains we cannot take advantage of them to build a better world when the war is over. And to build a better world—to make the credit side of the war permanent—is the only adequate way we can consecrate ourselves to the memory of the men and women and little children who will have lost their lives in it, and to the still living who mourn them.

What then can we, as Americans, put down on the credit side?

The most obvious gain from the war is a great speeding up of scientific and technical discoveries. In his recent dramatic speech on this subject, Dr. Charles M. A. Stine, vice-president of E. I. du Pont de Nemours and Company, said:

> "Today, even as I speak, the war is compressing into the space of months scientific and technological developments that might ordinarily have taken us a half-century to realize if necessity had not forced the pace.
>
> "One does not need to venture into prophecy to sketch the bold lines of what that progress can be. They have already been traced. Already our world of 1940, in which we

> took such pardonable if mistaken pride, is so far distant that it has become an antiquity, as seen through scientific eyes. The inconceivables of two years ago are today's realities. . . .
>
> "The nation will emerge from this war with capacities for making plastics, synthetic fibers, nitrates, hydrocarbons, high octane gasoline, and literally scores of chemical and other raw materials on a scale that only two years ago was beyond our comprehension."

Under the whiplash of necessity and because—horrible to admit—the surgeon's laboratory has broadened out to embrace the whole world—medicine also has made advances which would have come much more slowly under peacetime conditions. Three examples are the development of blood plasma, the wide use of the sulfa drugs to prevent wound infection, and greater public education in nutrition.

The second great gain for our country is the better understanding between industry, labor, and government. Big business is out of the dog house and is showing its teeth—against the common enemy. It is also showing a growing realization of its own social responsibilities and past mistakes, and a willingness to admit them. There are indications that labor, in turn, seeing the tragic example of France, is realizing that national welfare is more important than success in the struggle of class against class.

The third great gain, as proven by this interesting and significant series of articles, is an outgrowth of the part women are playing to win this war. As Nell Giles points out in her article significantly titled, "They Are Dependable," 3½ million women are now punching clocks in American shipyards, munition plants, airplane factories, and tank arsenals. When war production will have reached its peak, 2½ million more women will be on the assembly lines of American industry.

This is a great, revolutionary development. It has come with such swiftness that few people realize its implications. Though millions of these women will return to their first jobs as homemakers when the war is over, the aftermath of their participation will be important.

Most significant, perhaps, will be the effect on the women themselves. This is the first war in which they have been able—or allowed—to play so vital a part.

Although a certain number of women went into factories in the First World War, women's historic role was still to wait and weep. In this war they wait and work. This is giving them, I believe, a new sense of pride, a new feeling of unity with their men, a stronger sense of citizenship, a new feeling of responsibility and independence, and a point of view

whose horizons have widened from the four walls of the home to the four continents.

In the First World War, women were just as anxious to help, but their efforts to do so through the only avenues open to them were often pitifully futile. A few went "over there" as nurses, or to serve in canteens; a few found work in munition factories. But, for the most women, helping the war boiled down to rolling bandages, or taking First Aid courses which not one in a thousand ever had a chance to apply on a war casualty, and which most of them promptly forgot.

How pale this all seems beside the deep satisfaction which a woman of today knows who has made a rubber boat which may save the life of her aviator husband, or helped to fashion a bullet which may avenge her son!

By being given a real part in this war, women have grown in stature, not only in their own eyes, but in those of their men. It seems significant to me, reading the articles in this book, that there has been almost no attempt to exploit women workers, or to belittle the part they play, as there once was. This angurs well for the future of our whole social structure. It rings down the curtain, I hope, on our long-drawn-out Battle of the Sexes.

Let us, therefore, chalking up the gains from this world catastrophe, determine that when peace has come we shall have the goodwill and the intelligence to make those gains permanent; and to build, with God's help, a civilization worthy of the men and women who have died to preserve it.

# Management - 1942 Model

*by*

Carolyn Anspacher

*San Francisco Chronicle,* San Francisco, California

THIS is a young man's war.

It takes youth to live valorously; to die gallantly; to dream defiantly.

Off-hand it would seem that America has no time for dreams.

It is late, the critics say; later than we realize. And dreams take time.

But today's dreams are born of sturdy stuff. And today's dreamers, curiously, are realists—men, young in years and young in spirit, whose dreams are geared toward victory.

There is nothing phantasmagoric about K. T. Keller, Chrysler's production genius. There is nothing nebulous about Charlie Moore, Joshua Hendy's towering dynamo. Apparently earth-bound are such men as "Dutch" Kindelberger, Harlow Curtice, Donald Douglas, Charles White, Henry Kaiser, the Gross brothers, H. O. West, W. P. Brown.

These are a few of today's dreamers whose energized visions are weaving a pattern for tomorrow's peace.

Their "thick-coming fancies" are producing no chimeras, but planes and tanks and ships and guns and bullets.

It's done this way.

An ancient foundry dozes in the sun along with its tottering watchman. By it a scraggly pear orchard covers slumbering acres. There are memories of a place once rich, now a little shabby.

Twenty months ago a six-and-a-half-foot tall Californian went to Europe as a member of the Harriman mission. He watched British production. He heard the sound of blitz. He knew the tempo of modern war was fortissimo and was sweeping the world like an epidemic.

All during his trip Charles Moore hoarded his dreams; he came home to California and went to work on their realization.

In another, more peaceful time, Moore's program might have been catalogued by psychiatrists as indicative of lurking delusions of grandeur.

He took over the century-old Hendy Foundry in Sunnyvale, with its pear orchard, its pigeons, its few straggling retainers.

In two weeks the orchard was gone. In two months most of the old machinery had been converted to new purposes. In less than two years the plant was awarded the coveted Army-Navy "E" for outstanding production of war materials. Firm officials say it is turning out more marine engines and torpedo mounts more quickly than any similar organization in the world.

People speak glibly of miracles. Yet miracles, these days, are cheap.

Every moment of every day, throughout the length and breadth of this country, miracles of this same sort are being wrought by men like Charles Moore—men impatient of delays and more impatient of antiquated traditions; men who are proving that democracy can generate efficiency and achievement.

Scrapped for the duration and probably forever is the threadbare doctrine of American industry—jungle competition.

America's new Titans are rugged, all right, and most of them are individualists. They have to be. But consciously or unconsciously willingly or unwillingly, they have adopted certain broad tenets of cooperation.

The new attitude, the new psychology, sloughs condescending paternalism; substitutes in its stead an interchange of energies.

Looming today is a greater degree of cooperation between labor and management than ever before in the nation's history—not because it's pretty and noble and idealistic, but because it's expedient and, further, because it spells progress.

This demonstration of industrial unity—this integration of heretofore antipathetic factions—is still in its infancy; but it is growing—largely through the resiliency, the adaptability, and the accessibility of younger men leading the battle of production.

New are the labor-management committees—the so-called "Victory Committees" mushrooming throughout the country. Out of them will come social gains for labor, production gains for management.

It sounds very cozy. Actually, it is very cozy and will become more so as time races on.

In this vastly altered industrial picture, with its relocations and dislocations, women are assuming more and more dominant roles. And it is a tribute to the younger industrialists that they have accepted this almost fantastic conversion of man-power into woman-power with such grace.

A decade ago there might have been an attempt at exploitation of feminine workers. Today there is a kid-glove consideration of this complex and confusing problem that reaches so deep into the heart of the nation.

Absorbed though they are with the job of meeting accelerated production schedules despite material shortages, individual industrial leaders, for the most part, are as cognizant of impending sociological changes as labor and government.

Net result is that for the first time management finds itself wallowing in the past and hitherto virtually uncharted sea of social service.

Directing destinies of a war plant today is tantamount to being a dean of women. And, catapulted into this new role, industrialists are scouring the country to find wise and sympathetic women counselors to assist in solution of feminine industrial problems.

They are training forewomen instead of foremen. They are intent upon installing adequate restroom facilities to meet feminine needs. They are establishing special training courses geared to the feminine mind.

They have gone into the business of designing proper working costumes. They are concerned today with the puzzling task of coping objectively with the omnipresent battle of the sexes.

It has been said this is a war of firsts. It is a war of firsts on every front.

On the production front, management, young vigorous management, is halting in its tracks to give thought to problems of housing, to problems of child care.

Curiously, it has now become apparent that changing diapers and changing shifts are part and parcel of the same picture.

Acknowledging this, industrialists are closeted hours each day with nutritionists, child psychologists, kindergarten experts. It's a far cry from the good old "let them eat cake" days.

In Southern California one plane manufacturer wearied of waiting for State and Federal solution of the problem of what to do with young children of mothers working in his plant. So, somewhat wryly, he purchased a large estate adjacent to his factory; installed the area's most distinguished experts in the field of child care; and now operates a nursery and progressive school on a 24-hour-a-day basis.

This, according to the manufacturer, is not a generous gesture, feebly executed to pacify discontented workers. The nursery school, he feels, is an insurance policy, not alone for himself, nor for his workers, but for democracy.

This particular type of insurance, required because of mounting human needs, is perhaps as great a miracle as this war has produced.

And significantly, the underwriters are not battle-scarred veterans of past labor-management disputes, but industrial pioneers willing to gamble on the future.

In spirit America has returned to her covered-wagon days.

The rush toward new frontiers, new horizons, is just beginning. And in the vanguard are this nation's new industrialists, still young enough to dream defiantly, still intrepid enough to play tomorrow across the board.

# "They Are Doing Wonders"

*by*

**Marcia Winn**

*Chicago Tribune,* Chicago, Illinois

THEY started out with ten girls and a job setter and a foreman. One of the girls had been a manicurist. One was from a dime store. Three had clerked at the A. & P., and had prowess only at tossing potatoes in a sack or estimating how many prunes went into a pound. Three had been housemaids. One had been a cook in a serve-yourself arcade. The tenth had been a stenographer.

What they needed was a tool shop. They also needed men, skilled machinists and tool-makers. But every good man they could get their hands on was needed elsewhere in the vast metallurgical plant which had expanded 2,600 per cent in a suddenly isolated America's need for tungsten and palladium and tantalum. What to do?

They had a good man as foreman, and they had a good man as job-setter, and they had ten girls. So they started out on what they were sure was the road to failure.

"Those girls weren't afraid to get their hands dirty," the president of the vast plant observed proudly. "They weren't afraid to work. They put on overalls and tied up their hair or cut it off. And in twelve weeks they were making 900 different kinds of tools and making them well.

"You can't tell me anything about women and how they work. I know. They are excellent. In many cases they are better than men. They work harder and longer and take endless pains to achieve the perfection we must have."

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The scene now shifts 3,000 miles westward to the Santa Clara Valley in California and Del Monte cannery No. 3 of the California Packing Company. Calpack, they call it. And Robert Eames, president, a doughty, modest figure in brown, leads the way through a maze of machines which de-stem grapes, split peaches, core pears, and slice cherries. He pauses abruptly beside a great black machine which screams and sizzles and belches out row upon row of tin cans.

"A double-seaming machine," he says. "Always had men on them. We thought we'd experiment with a few women at a time. Well, would you believe it if I told you those women are doing a better job than any men we ever had? Men will let a can go by if it *seems* to be all right. Women won't let it by unless it *is* all right. There is a world of difference. Call it conscience, if you will, but we welcome it."

*****

Again the scene shifts, this time to the barrage-balloon-dotted sector of southern California which houses most of the Pacific Coast's aircraft industry, now 100 per cent converted to war. You are at Vultee field, and Hugh Fenwick, the flying vice-president, leads you through the great plant where the rugged little basic trainer, Valiant, is built. "Looks like a Rube Goldberg drawing, doesn't it?" he asks merrily, waving at the assembly line which curves in and out, a double S, until the finished plane flies out and off to war.

"See this line?" indicating a fuselage assembly. "First all-woman assembly line of a major part in the history of aircraft. Look at those dollies' fingers go!" A mile or so farther he pauses beside a hooded woman who wields a long leaping-flamed gas torch as delicately as an etching needle. "Hardest job in the place," he says. "A hell of a job. Aluminum welding. High volatility, you know. Crystallizes readily in heat. All women doing it. Can't beat them."

"Listen," he says at last, after innumerable stops to show intricate work being done by women. "I'll tell you the truth. We hired women with our fingers crossed, and I mean crossed. We hired 20 and thought they'd be gone in a month. That was 18 months ago. We still have 15 of those dollies. The other five quit because they got married. Well, we think so much of women now we plan to have them do 50 per cent of all our work before this year is out."

*****

Now jump up to Portland, Oregon, to the Iron Fireman Foundry Company. The boys here used to make stokers. Now they make more than 700 delicate, high-tolerance parts for airplanes, submarines, and tanks. In May the foundry contained no women. By August it had 700 at work on turret locks for the M-4 tanks, cable drums for heavy bombers, gun mounts for bombardiers, bomb bays for 2-engine bombers, telescope closures for submarines.

"We were surprised at what they could do," H. C. Carter, superintendent, says. "They are doing wonders. They make up in interest what they lack in ability, and that makes for accomplishment."

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Naturally, these glimpses are only a skeletal view of women in war production. Anywhere you look, except in the interior of an M-4 tank, you will find women at work in this eleventh month of the war. You'll find them riveting the aluminum ribs of Boeing's great B-17F; testing the propellors of the Douglas C-54 transport; clambering over the 441-foot hull of Kaiser ships, their faces grotesque and grim in the strange blue light from arc torches as they weld massive steel plates into position; making shells and fuses and anti-aircraft guns; filling little silk bags with powder and filling yellow rubber gloves with air; making plastic noses for bombers and windshields for jeeps; making pontoon floats and gas masks and barrage balloons; making a name for themselves as quiet, sturdy builders for victory. And everywhere you'll hear executives swallowing their own words of a year ago when they said, "But we can't produce with women!"—for they are producing!

The use of women in industry is no novelty, nor has it been since the very late Mr. Butterick invented the paper dress pattern. But the enforced use now of women in such vast numbers, working on products that often are massive in size, has raised definite new problems.

Weight is one of the more difficult problems. Many states limit by law the amount of weight a woman may lift. In California, for instance, this is 25 pounds. Industry is gradually overcoming this by devising machines to do the lifting.

Then there is the problem of woman's emotional make-up and its effect on her production capacity. To work efficiently she must be released from anxiety at home, such as fear for her children's welfare. Many industries, notably the aircraft companies, now have their own day nurseries. If a woman worker's husband or son or sweetheart in the armed forces suddenly is sent overseas, her work slumps like the down car on a roller coaster. Many companies now are overcoming this with organized counsel and encouragement.

Industry has found that men show more initiative, but women show more ingenuity. Women come up with some of the strangest time-and-labor-saving devices anyone ever dreamed of; the miracle is that they work. A woman at Douglas aircraft, who used to teach Latin in Oklahoma City, got a little tired of seeing 11 steps go into the painting of strips of color on a tube. "I could do it with this—and this—and this," she said, blocking out three brief steps. And she did. She saved eight hours a plane for them.

*****

Industry has long known that woman had manual dexterity. They knew she was quick, fast, and accurate on finger-twiddling work. But they thought she would become hysterical after eight hours at a lathe or punch press or behind a bucking rivet. They thought she was a neurotic busybody and trouble-maker who could get along passably in a shop with women but never with men. They thought if the battles of 1942 had to be won with material invented, perfected, and produced in what is left of 1942, and if women had to help invent, perfect, and produce, the United States might as well pull the covers over its head right now and go back to sleep.

The best and only answer to all of these arguments lies in the superb production figures of industry. If you want to know what they are, please conduct your own fight with the censors. In conclusion, it might be worth while to quote the president of one of the largest companies in America:

"I'll deny it until the end of my days if you use my name. Listen, girl, I'll deny that I ever saw you. But if you want to know how I feel, I'll tell you," and he broke into a discreet whisper. "If I had my way now, I'd say, 'To hell with the men. Give me women.' They," and he looked surreptitiously around, ". . . never come to work with a hangover."

# Training for Victory

*by*

**Bess Stephenson**

*Fort Worth Star-Telegram,* Fort Worth, Texas

PRE-EMPLOYMENT training of women for war industry, as you learn readily on a tour of 29 war plants, is not half so important from an actual training standpoint as from that of character testing. The important training comes after they go on the job, when their work is fixed and must be done in rhythm with the rest of a great army of production soldiers.

Any woman with normally active mind and good health can learn quickly to do any of the jobs open (or likely to be open) to women in war industry. No such job, whether it be riveting a plane together or welding a Liberty Ship, is actually much more complicated than handling a can opener in the kitchen. It may be heavier and harder and more exacting work, but no more difficult to comprehend.

So the training programs, set up in all centers of war production, are to acquaint the women in advance with strange new tools and get them over the first qualms of strange new factory work. The Government has established training courses in connection with existing school facilities in virtually every city within a radius of 300 miles of a war plant. These are schools for pre-employment training.

Enrollment in these schools is in all cases through the United States Employment Service. The woman who wants work in a war plant makes application to the USES and (if all her qualifications are in order) is assigned to a school. She goes to school at no cost and at no pay to train for the job she wants. It may be welding, riveting, machine operation, drafting, bench electrical work, or inspection.

These courses run from four to ten weeks, depending on the job and the urgency of the local employment situation.

In the beginning, for example, full and thorough pre-employment training was required by the West Coast aircraft plants. Now, urgently in need of more and more women workers, they go into training schools and take women who have only just begun their courses; they will finish training them when the women go on the jobs. They are taking on women with very little or none at all of the pre-employment training.

Actual job training is just as effective and thorough as is the training in pre-employment schools, but the war factories don't always get the best type of women this way. They just have to guess and hope they will. On the other hand, the woman who has finished a no-pay training course may be depended upon to have some strength of character.

The woman who does go to school for a full six, eight, or ten weeks has passed a fairly strenuous character test. She has probably gone to school six hours a day, seven days a week, and held down her regular job in the meantime. She has had no extra pay for it. That means she's in earnest about it and can stand the noise, the long hours on her feet, and the factory discipline. It means she can go six hours without smoking a cigarette or gabbing over the telephone or powdering her nose or going out for a coca-cola.

So these facts argue for pre-employment training, such as the Government offers in all war areas. On-the-job training, however, is so effective that no conscientious woman need feel too scared about it, if she gets her job call before she finishes her training course. Her job education goes on after she gets in the factory and she can learn anything she wants to learn.

On-the-job training has been worked out so effectively in all war plants that it's only the fool or the disinterested who can't learn quickly and be sure of herself and her job in a very short time. Job-instructor training is as extensive as job training, itself. Every foreman, every leaderman, every group leader in the war plants soon becomes a very good and thorough teacher. They are constantly at work on training within industry.

The course in job-instructor training is open, in some cases, to women as well as men. It leads to advancement as foreman and group leaders. It is a course to teach teachers. These teachers know how to make deft workers out of raw factory recruits in the shortest time possible and with the surest results. They are challenged by the slogan: "If the worker hasn't learned, the instructor hasn't taught."

Foresighted enough to know that this war will require the employment of thousands and thousands of untrained workers, every war plant has its work broken down into the simplest operations possible. Skilled machinists are no longer available and are no longer vitally essential in the majority of plant operations. They've done their job in advance and well. What is required now is skilled machine operators—and a woman can become one as readily as an untrained man. Machinists have made the machine operator's work simple by designing amazing machines. They do everything but talk back to you.

One of the customary differences between men and women is that men will do a lot of thinking to get out of working too hard and women will do a lot of work to get out of thinking too hard. So men have done an awful lot of thinking to keep the war factory jobs simple, easy to learn, and not too strenuous. Women don't have to work too hard for their capacities and they don't have to think too hard for their habits.

No one job in any of the 29 factories visited by the All-Girl War Production Tour seemed to be either a back-breaker or a brain-wrecker. The jobs seem relatively easy and well-thought out, very well. So extensive pre-employment training is not absolutely necessary. Some training is essential for some jobs, of course, (welding and riveting, for example) so that women may acquire knowledge of their tools before they are turned loose on a job. But, as mentioned before, they needn't feel too scared if their training is cut short.

Virtually all the war factories have on-the-job training and on-the-job schools which run after working hours. Any worker with ambition or curiosity may attend school two hours a day, three days a week perhaps, and learn all there is to know about her particular craft or any other craft of that industry she is interested in. In many cases the classes are conducted by the foremen themselves, who know exactly what workers need to know. In most of the schools, workers are given diplomas (and often pay-raises) as they finish one course and enroll for another. More learning and more skill in any event means more pay.

Time being short, there is little or no attempt in these factory training courses to make theorists or engineers or scientists out of the war workers. They aim simply to make competent job specialists out of them. Most factories need more engineers and scientists, but there isn't time to educate them. So each worker is expected to make herself competent and fast on the job she is assigned to. She is entitled to advance to more complicated jobs as she learns them—after working hours in factory classrooms.

Training of women on the job and in classrooms after working hours is already heading toward the inevitable. There will be women foremen before the war is over. So far virtually all foremen are men. But the inevitable trend is women as well as men on these jobs of work leadership. Women themselves don't like the idea, too much, but they will eventually see that the shortage of foremen is as acute as the shortage of workers.

So job-instructor classes are being opened to women. There's no reason why they shouldn't be good job pedagogs.

# They Are Dependable

*by*

**Nell Giles**

***Boston Globe*, Boston, Massachusetts**

AMERICAN industry is punching the clock on double-quick time in shipyards, munitions plants, airplane factories, and tank arsenals.

Three and a half million of these clock punchers are women . . . and a few months from now, when war production will have reached its peak, two and a half million more women will have been added.

How good are these unskilled women workers who have come from the kitchen, the office, the school room? Most important, how dependable are they?

Absenteeism has long been a great black mark on women in industry. A report made by the Boston Edison Company showed that one-day absences among women, for a year's time, were 2.9 times as numerous as among men. A British report made by a Welfare Superintendent in the summer of 1941 showed that approximately 8% of the "female staff" could be classed as a permanent absentee list.

Could women, then, be depended upon to "stick to it" through the pressure put on industry for increased production?

Woman-power in World War II is still a subject too new to get statistical about; but, if one can be satisfied with enthusiasm rather than facts, we can report that the majority of American executives are registering a temperature on the dependability of women in war.

No industry invited women . . . not one executive we questioned on our recent tour of 29 factories in 9 industrial districts *wanted* women . . . but a shortage of man-power made it necessary to employ woman-power. And *now* listen to them talk!

> Mr. Banfield, president of the Iron Fireman Manufacturing Company, Portland, Ore.: "Women are no trouble at all . . . they are adept at their work . . . but what amazes us most is the zest with which they tackle it. Men have a roving streak, but women stick!"

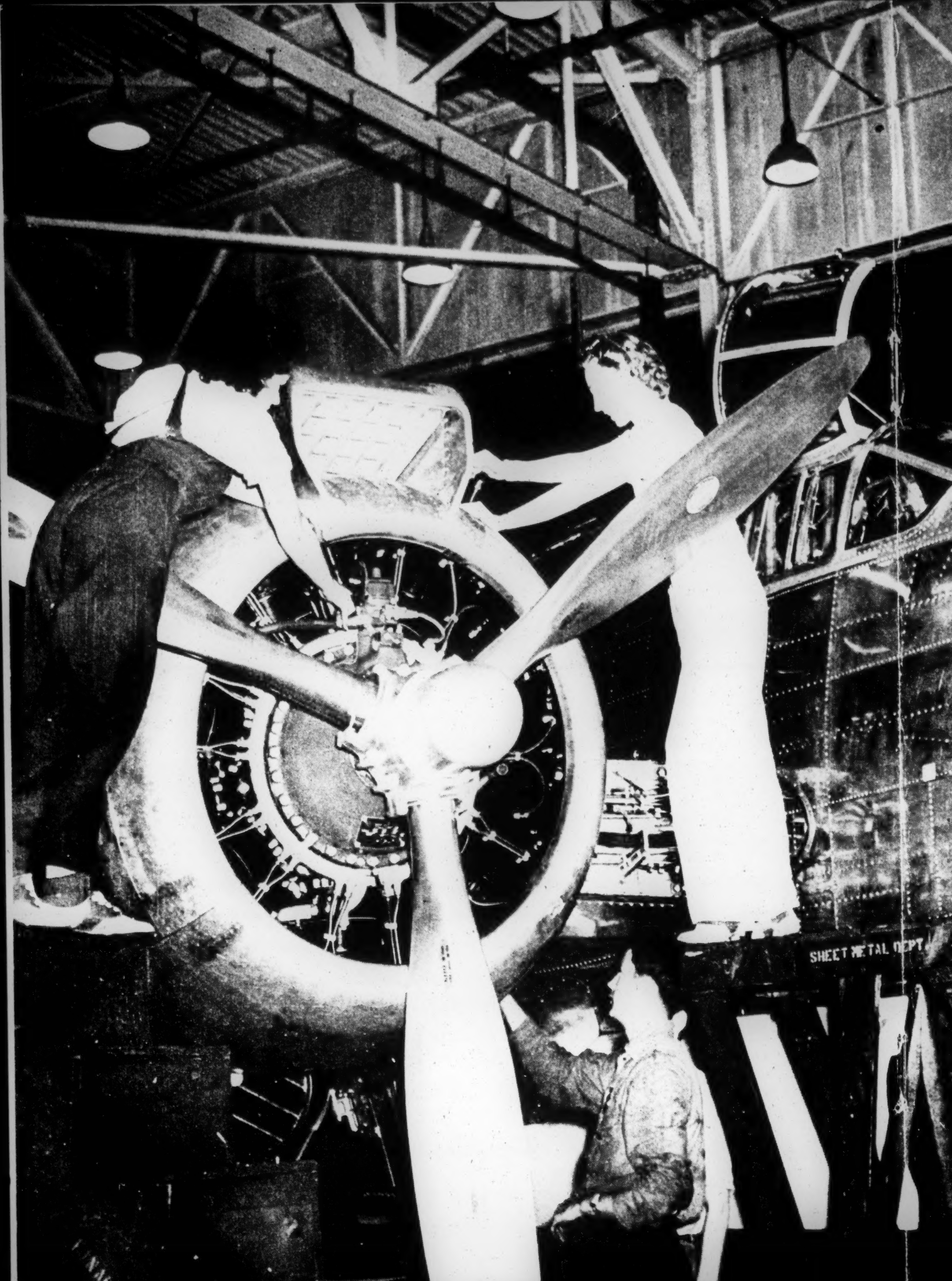
Executives of the Lockheed and Vega plane factories said that women were "completely satisfactory" . . . and J. B. Wassel, Vega's chief engineer, added: "What makes them especially valuable is their zest and enthusiasm. Women feel a great joy in doing something to help win the

*There are eight final inspection steps in the production of pistons for aircraft engines—and a woman does each part of this vital war job in one of our large aircraft factories.*

war. We have not found them personally ambitious, as men often are, but they are content to do the same job over and over. This may be a lack of ambition, but if so, it is a valuable quality, and we need more of it to win the war."

R. G. Graham, vice-president of the Goodrich Company, gave the little woman at war a pat on the back with his resounding statement: "It's the working women who are going to win this war!"

Only one manufacturer, who will be long remembered by those on our tour, disagreed with the general feeling about the country that women at war are simply terrific and all to the good. Fifteen newspaper women pinioned him with the description "small and neat" and then quoted him, the country over, without elaboration: "I am not wholly enthusiastic about women workers. I have found them a disturbing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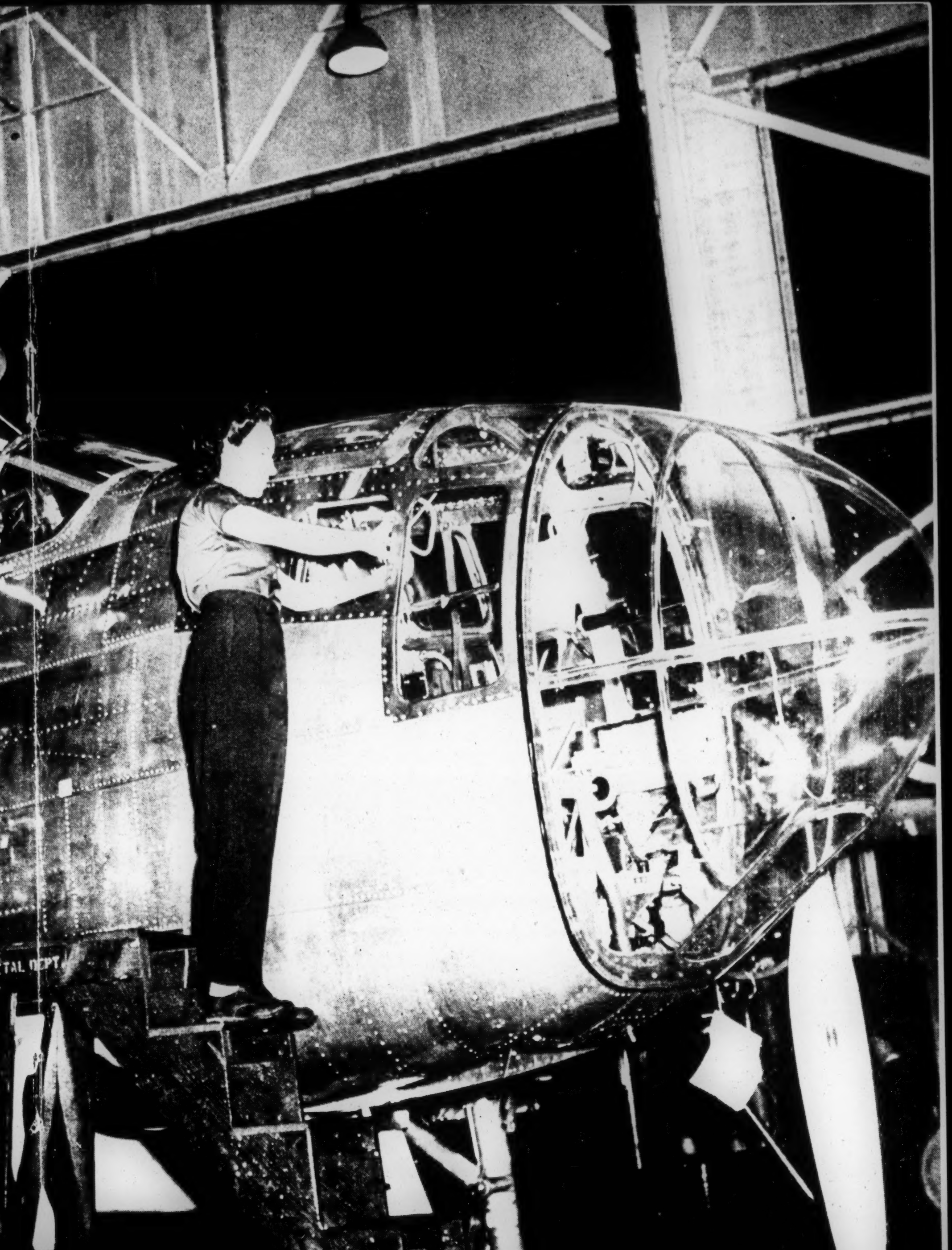

TAL DEPT

influence." He did, indeed. What he really found was a little unprintable trouble with an undesirable group of women rivet-buckers who were more interested in the buck than in the rivet.

The three official reasons industry gives for absenteeism are: illness, accidents, and personal. But from experience and observation, I would add *monotony*.

The most monotonous work in industry is certainly found in a cannery . . but the work is seasonal, and by the time summer comes around again a girl can forget, with good pay, how tiresome it was to impale a peach on a revolving knife fifty times a minute.

But the gun clip business, these days, is not seasonal. In the Firestone factory at Akron are a number of big machines . . . all operated by women . . . which make a cartridge clip out of a straight, ribbon-like piece of steel almost at the rate of one every five seconds. The steel is threaded into the machine, is shaped and cut in one operation. And all the girl behind the machine has to do is keep her eyes on that moving row of steel clips, and one hand grasping a rope above her head which is attached to a lever. The instant there is a traffic jam on the row of clips, she must pull the rope and stop the machine. You walk down the aisle and see girls on either side . . . eyes intent on the machines and arms hanging on to those ropes! The monotony is paralyzing.

And yet, it was in this factory that I heard the comment, "If the calibre of men in Congress were equal to the calibre of our industrial workers, the war would be a shorter story."

The bottleneck produced by absenteeism is combatted in factories with a very sound social program.

First, working conditions in factories are more pleasant than living conditions in the homes of most factory workers.

We saw only one factory (the Willys Overland plant, converted to jeeps) where the equipment, the rest rooms, and the cafeterias were not equal to the best that money could buy. (The 30-year old Willys plant, poorly lighted and using open-belt and pulley machines, however, is the only automobile plant which hasn't had a strike since the war began.) We saw marble washrooms; electric cook stoves; chromium-barred, spotlessly clean cafeterias; recreation rooms, as fine as any city club facilities.

Second, an active program of recreation relieves the monotony.

> In one factory we visited . . . the Thompson Valve Company in Cleveland . . . dances and steak breakfasts are planned regularly for the "swing shift," and these are paid for as often by the employers as by the employees.
>
> Bowling teams are popular in almost every factory. The

> city's movie houses (and this is true from Seattle as far east as the Great Lakes, at least) have a midnight show for the late workers.
>
> From coast to coast, department stores are adjusting their hours not only to stagger the town's traffic, but to provide a time when factory workers can conveniently shop. *And all this adjustment of civilian life to industry cuts down absenteeism in factories.*
>
> All this prevents "Susie, the beautiful welder," from taking the day off to see a movie or shop.

Third, there is a very active program of propaganda pinned up on the factory bulletin boards and printed in the employees' magazines and papers.

> The Pullman Company of Hammond, Ind. . . . converted without reservation to the making of those comfortable General Lee tanks! . . . has a large checkerboard in front of one factory with this slogan: "Absenteeism makes their hearts beat longer" . . . flanked by drawings of Adolf and Tojo. And on the board are listed the attendance ratings of various production departments.
>
> The Iron Fireman Company of Portland prints a "Jap Helper Department" cartoon in each issue of its twice-monthly news sheet.
>
> The workers in Mr. Kaiser's shipyards are appealed to with a letter such as the one addressed to "Joe Layoff" printed in Kaiser's bi-weekly magazine for employees . . . and it could just as well be addressed to "Josephine Layoff," who also is a welder for Kaiser.
>
> The Firestone problem of absenteeism is handled by a letter written jointly by the manager of the department and the head of the labor group. The letter is sent to the employee's home and mentions the day absent and also the fact that on Bataan there were no absentees. Many times the family of the person who has skipped work does not know of the absenteeism, and a little added pressure from home helps the effect of the letter.

Fourth, over the entire country, doctors interested in industrial health are publicizing the fact that women are not the weaker sex, and that except for heavy lifting they are capable of doing any factory work that men can do. Thus an attempt is made to break down the one- and two-day absences which give women a higher percentage of absenteeism than men.

# Victory in the Hands of Women

*by*

Janet Owen

*New York Herald Tribune,* New York City

THE new symbol for victory in the war effort is a pair of woman's hands.

Industry, losing its men, has turned to women to finish the job of war production. There can be no "man behind the gun," from now on, unless there is a woman behind the machine to make the gun.

As the mind's eye of industry sees them, her hands are small but flexible, sensitive but strong, delicate, perhaps, but very agile. They are neat, and not gaudy with lacquer talons. They are eager. They are efficient.

Some leaders of war industry will tell you they are more efficient than the bigger, brawny hands that preceded them. From coast to coast, in plants where vital materials of war are made, there is a new byword. Industry and government officials use it with a quality of hope and belief in their voices, as though they were saying "Open Sesame." The byword is "women's nimble fingers."

Paul V. McNutt knew these facts when recently, as Manpower Commissioner, he called for woman-power. He did not appoint a deputy to do it for him, or leave it to a sub-commission. Washington today looks upon industrial man-power and woman-power as one and the same thing—power—the make or break of victory.

Fifteen newspaper women also know these facts, intimately, from personal experience. On our group tour of West Coast and Midwestern war plants, made a few weeks ago through the assistance of the National Association of Manufacturers, we saw evidence of the way women have taken over the job of war production bristling from behind the machines of nearly every type of industry in the country.

Women, management told us, new as they are at most of their war industry jobs, are not only a match for men workers, but in many respects their superiors. Their "nimble fingers" make them far more skillful at all forms of precision work. Their patience keeps them from becoming irritable in work that involves monotonous motions. The very newness of their jobs lights up their efforts with a spark of eagerness which was missing and missed before.

The twenty-nine plants visited were a fair cross-section of American war production. They included aircraft building, ship building, machine crafts, meat and fruit packing, munitions making, tank and jeep assemblage, chemical, glass, steel, rubber, and synthetic rubber manufacture, and other fields of vital industry.

Consensus was that women have stepped up the speed of production.

Southern California's big centre of aircraft industry spoke in a unison voice of approval. Every one of the executives of six major companies had a good word to say for the effect of women's entrance into the field of plane-making.

Harry Woodhead, president of the Consolidated Aircraft Corporation, which employed 7,500 women at the time of the tour, said:

"Our production rate shot up immediately in the department where we used a large percentage of women. We'd like at least fifty per cent women, and I believe that after the war many of them will stay on. The jobs they do best—riveting, welding, and electrical work—will come to be regarded as women's work, war or no war."

R. Randall Irwin, of the closely affiliated Lockheed and Vega Corporations, said: "We find we gain in production when women work with men."

Robert E. Gross, president of Vega, which employs women in practically all departments, told of increased production following the advent of women, and added: "In our factory there is virtually no job a woman cannot fill."

Going into details, another Vega executive, H. E. Ryker, vice-president in charge of manufacturing, said that women had "shown up the men" on cable-splicing. Telephone and electric companies have held that only a man can splice cable, but Mr. Ryker says: "Women are expert at it. They are much better than men ever were."

At Vultee Aircraft's handsome plant at Downey, Calif., we found not only the executives getting together in a chant of praise for women as workers, but an outstanding example of what women are contributing to industry.

G. M. Williams, vice-chairman of the board, and R. A. Lawson, works manager of the Vultee Field Division, separately gave identical explanations of why "production boomed all over the plant" when women went into the shops. The women were eager to prove they were good workers, Messrs. Williams and Lawson said, and with their desire spurred by an awareness that the men at first were not too happy over having girls edging into their province, the girls took hold of their jobs fervently. They were not only conscientious, but full of zeal and initiative.

Faced with the challenge of the girls' results, the men workers took on an attitude of "Hell, they can't do this to us," and geared up their own efforts to match the girls'. Now, the executives said, the girls and the men that remain have settled down together into a harmonious cooperation that outstrips the highest efficiency of all preceding periods.

Mr. Williams said he had found that fuselage work in particular moves more rapidly under women's "more nimble fingers," and that "women don't fumble a rivet as often as men do." Besides such assets based on natural skill, there are the less tangible assets of the typical feminine attitude.

Case in point is the girl at Vultee who sits today at a table, ambidextrously using the "power wrenches." These tools are hung up over her head, and brought down into play alternately, by pulley system. Her predecessor at that spot was a man. He, however, had only one wrench to work.

This man power-wrencher was bored. He complained that his arm got tired. When the girl replaced him, new at the job and unbored, it did not occur to her to think about her arm getting tired. Her only comment was, what should she do with the spare hand that wasn't working? So they rigged her up a second wrench, and now two wrenches function instead of one.

Even one aircraft plant executive who created a national stir by telling us that some of the girls in his plant were causing a disturbance by not immediately showing a strictly businesslike attitude, said that "woman's dexterity in sub-assembly work is superior to man's."

Outside the aircraft industry, the chorus of praise continued. Charles E. Wilson, president of the next-to-limitless General Motors Corporation, said at the G. M. C. home offices in Detroit:

"We could get more production here if we had better spirit among the workers. Women, who at the moment make up ten per cent of the entire corporation's production workers, are more enthusiastic and showing much better spirit than the men." He said that in the Buffalo and Tonawanda Chevrolet plants General Motors hoped to boost the small total of 178 women workers to 5,000 within the year.

A. W. Eames, president of the Del Monte plant of the California Packing Company, at San José, said his organization had found that "women do as well and often better than men on all machines which they are physically able to operate." Seventy-five percent of Calpack workers now are women, and the company expects that before long the percentage may rise to ninety-five.

A remark made by T. H. Banfield, president of the Iron Fireman Stoker Company, Portland, Ore., which has been converted into a spawning bed of aircraft motor parts since we went to war, pointed to one serious question that arises from the establishment of women as efficient industrial workers.

"Many women are far superior to the men in equivalent jobs," he said, "and the men must be on their toes to compete. The company will continue to employ women after the war, if they are willing to continue working." His company, he added, was the first industrial concern in Portland to hire women, but that hadn't done him any good personally. Two maids in his home quit, to take jobs in his plant.

The question thrusts itself forward—what will happen after the war? If industrial management has found women more efficient than men in at least certain types of work, as the evidence overwhelmingly shows, surely management will consider it only sound economy to keep women on the payroll after the emergency is over. And women who have discovered how to average forty to ninety dollars a week will scarcely make a rush back to domestic jobs as maids, waitresses, manicurists, and the like which formerly netted them no more than fifteen to thirty dollars.

An industrial matriarchy looms as a possibility.

Washington has estimated that by Christmas, 1943, there will be five-and-a-half to seven million women on the factory front. Yet heads of industry have vowed to take back into their fold the men who were called away to war. And some, like Mr. Lawson of Vultee, stand for the principle that as long as society continues to consider man the head of the family when a choice must be made, the man, not the woman, gets the job. So there is a quandary to come out of the excellent work now being done by the woman behind the machine.

Perhaps she will solve it herself. Many young women we talked with on the tour were burning with a patriotic desire to "do their bit" in the war effort, but frankly said: "When it is over, I want to go home and have babies."

One way or the other, for the nonce the arsenal of democracy is fast becoming American womanhood's baby. Napoleon's statement that an army marches on its stomach could be modernized to read: the war production line moves on the hands of women.

# Some Outstanding Women in Industry

**Dr. Lillian M. Gilbreth**
*—Consulting Engineer*

**Catherine Ferguson**
*—Metallurgist*

**Ruth Wallgren**
*—Mechanical Draftsman*

**Vivian Kellems**
*—Manufacturer of Electrical Equipment*

**Estella C. MacDonald**
*—Treasurer of a Construction Company*

**Dr. Hertha Freche**
*—Research Engineer*

**Katherine Blodgett** *—Research Assistant*

# An Industrial Revolution?

*by*

**Amy Porter**

*Associated Press,* New York

THERE were the two girl workers in the cafeteria of the Firestone Tire and Rubber Company, talking about their work.

One boasted she was learning to read a micrometer "to make things come out right to a thousandth of an inch."

The other girl, impressed, said, "That's wonderful. How many thousandths do you suppose there are in an inch?"

The micrometer-reader answered, "I don't know, but there must be millions."

There are many little stories like this circulating in war plants, showing that the new war-working women don't quite know what it's all about.

Nevertheless, in spite of minor confusions, these women have managed to accomplish an industrial revolution all their own within a very short time.

They have brought about the first large-scale unionization of women.

They have won the first with-teeth-in-it assurance of equal pay in a recent War Labor Board decision.

They have caused the first wholesale setting aside of protective legislation for women.

These three developments are of more importance to the future status of women in industry than the mere multiplication of their numbers.

Of the three, unionization probably will have the most far-reaching effect. It marks a sharp break with the past. It means that men workers, who traditionally have disliked and feared the competition of women workers, now are accepting women into their fold. It means industrial suffrage for women, who heretofore have depended upon men, management, and the law to decide when and where and how they shall work.

Late in September the International Brotherhood of Boilermarkers (AFL) voted to accept women into the union, and already more than 3,000 women at the Kaiser shipyards in Portland have got their union cards.

Yet the Boilermakers, an old and conservative brotherhood of craftsmen, in the summer had been violently opposed to admitting women.

The opposition trotted out every possible argument, including ridicule.

Imagine a lady boilermaker, they said. Imagine a meeting of the Boilermakers' Sewing Circle.

Besides, a woman wasn't strong enough for the work. With the law forbidding her to lift more than 25 pounds, how could she wield a sledgehammer? She would work for less pay than a man and so undercut labor standards. She would have a new-broom enthusiasm for her job and do her work so quickly as to cause a revision of speed standards. She would always be asking some man to help her. How about after the war? Wouldn't she keep the job a returning soldier needed? Her place was in the home anyway.

This was the state of affairs when we visited the Moore Dry Dock Company in California and found that the boilermakers and the machinists refused to permit women to do the work for which they were eminently fitted—precision machine work, the operation of lathes, the making of molds. Management there charged that the "rigidity of the union" was holding back production.

But union self-interest won the day. The girls were going to work, obviously, with or without union blessing, because the country needed them. So, reluctantly, the union gave its blessing and annexed the strength—and dues—of thousands of women workers.

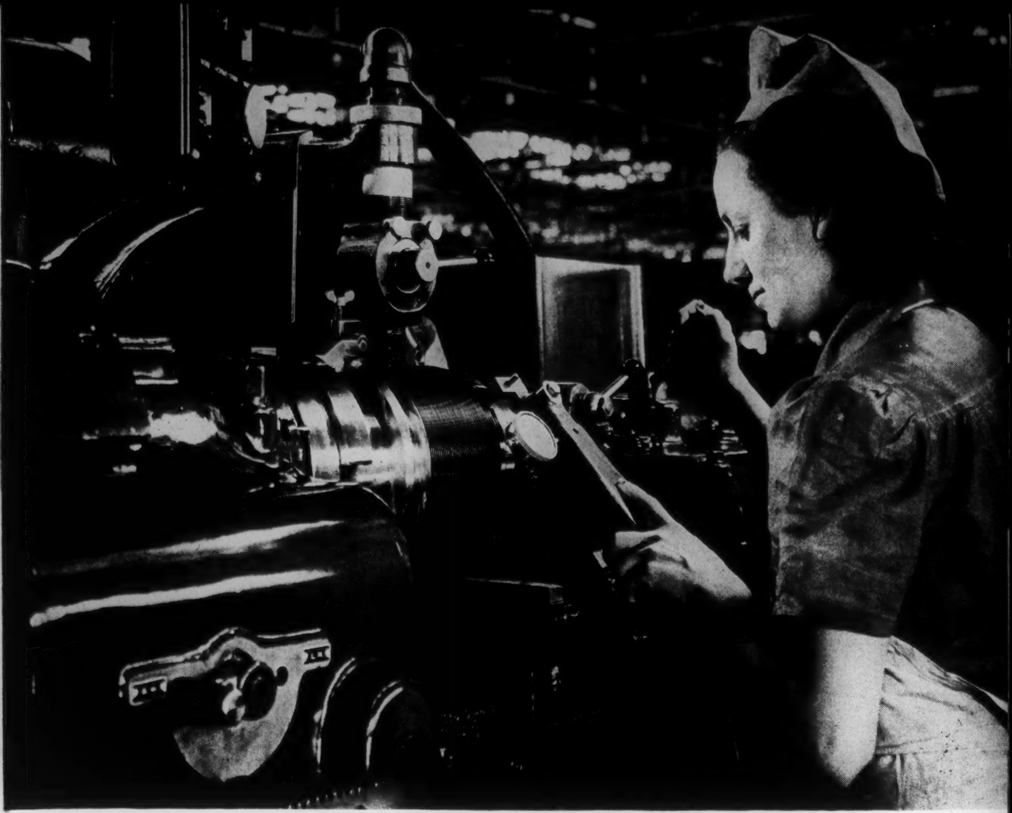
Oddly enough, women apparently took little part in the arguments. Judged by conversations with them, they were pretty indifferent to the union, so long as they were allowed to work.

Evelyn Dishman, 17-year-old welder at the Kaiser yards (closed AFL shop), didn't know or care whether the union would admit her (it wouldn't, at that time, and issued her a work permit instead). She wiped the sweat from her face with a grimy glove and told me, "All I know about the union is I have to pay them $30 within 30 days for something, and it's all right with me as long as I keep on making $62.40 a week."

Miss Dishman got her card as a member of local 72 the first week in October.

The Boilermakers were almost the last outpost of union resistance to women. On the West Coast generally, and particularly in the young, liberal-minded airplane industry, women are and for at least a year have been welcomed into the unions (mostly CIO). Everywhere vertical unions, whether CIO or AFL, admit women more readily than horizontal, craft unions.

At the Iron Fireman Manufacturing Co., Portland, where women are so well treated they are ecstatic about their jobs, the International Association of Machinists, Aircraft Division (AFL), even offered bargain rates to recruit women members—$7.50 initiation and $1.50 a month dues, as against $10 and $15 initiation and $2 dues for men.



At the Lockheed and Vega aircraft plants (AFL vertical open shops), a union representative said women were joining faster than men.

There are no bars against women in the CIO unions of the automobile and rubber industries.

One feminine characteristic that pleases management and sometimes worries the unions is a tendency to break records for efficiency and speed.

Harry Woodhead, vice-president of Vultee, told us, "Our production rate shot up immediately in the departments where we used a large percentage of women," and his sentiment was echoed in many plants.

Women give a glad response to incentive systems, in force in Akron and in many East Coast plants. Apparently they like the idea of getting more pay for speedier work.

This doesn't help their popularity with male workers who fear the hated "speed up" of other days.

William O'Neil, explosive president of General Tire and Rubber, said:

"They've sandbagged the women into joining the unions, but they haven't spoiled them yet."

The classic "slow-down" story of Akron concerns the Amazonian woman who threatened a man with a knife, when he tried to dissuade her from turning out more than the minimum amount of work.

"I won't listen to your arguments," she said. "I've got two sons in this war and I'm going to turn out all the work I can. You get out of here and stay out."

The union minimizes this incident, however, insisting it was an isolated case. The spokesman for the United Rubber Workers of America said: "Slow-down charges are so much nonsense. The unions by and large are doing all they can to increase production. But speed-ups are vicious and these new women workers don't understand that yet."

Women do understand the second phase of their feminine industrial revolution—getting equal pay with men for equal work.

Before the war, women's pay was consistently lower than men's—except in Michigan where such discrimination was a misdemeanor. And the unions condoned this situation.

Now the equal pay principle is acknowledged if not always lived up to. The West Coast leads the country in putting the principle into practice. Elsewhere beginner rates for women are often lower. At the Buick Melrose Park plant, women beginners got 65 cents an hour; men beginners, 85 cents. In the East, at certain Vought Sikorsky and General Motors plants, the unions charge that women are paid from 10 to 30 cents an hour less than men. Also probation periods are longer for women than for men.

Undoubtedly, equal pay soon will be a universal fact, since the WLB declared for the principle in its decision on the test case of the Brown and Sharpe Manufacturing Company.

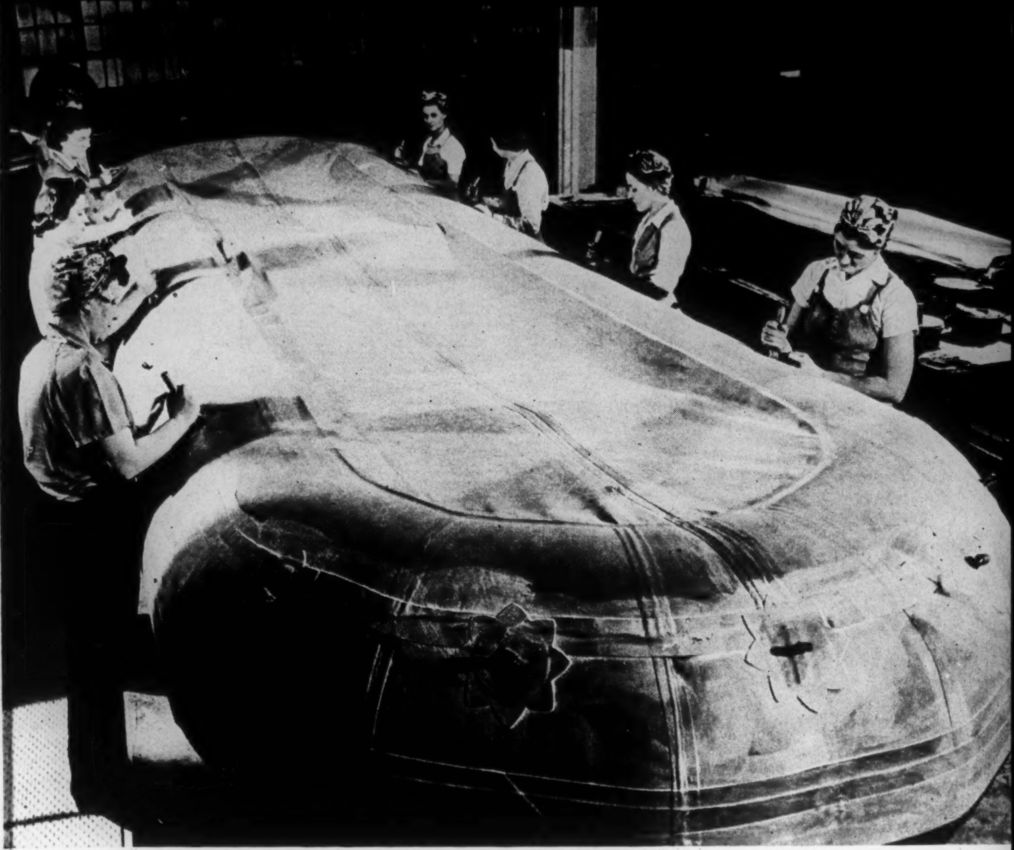
Perhaps the strangest phenomenon of the feminine industrial revolution is the abrogation of protective laws for women workers.

Every industrial state has agreed, because of the emergency, to waive its laws limiting hours and conditions of work for women "in special cases."

Twenty states have laws prohibiting or limiting night work for factory women. The forbidden hours in California are from 12 p.m. to 6 a.m., in Ohio and most other states from 10 p.m. to 6 a.m.

Thirty-eight states have weekly hour limitations—48 hours in California, 45 in Ohio, from 40 to 60 elsewhere. And there are countless regulations about sitting, standing, lifting, resting.

But these laws are set aside in favor of girl night-shift workers, and for occasional stretches of seven-day-week work, and for certain types of war production jobs.



Now leading women's groups are beginning to wonder whether it might not be wise to repeal protective legislation entirely, trusting the women to make their own rules as they go along, just as men do. Besides, management gives evidence of realizing that good working conditions and reasonable hours promote efficiency.

The National Federation of Business and Professional Women's Clubs, the Woman's Party, and the Women Lawyers' Association all feel that "protective" legislation is in effect discriminatory, and should be abolished to assure women workers real industrial equality.

For the duration, at least, women have won union privileges, pay privileges, and the privilege of not being "protected".

Whether the status quo will hold after the war, nobody knows. But a good many employers are willing to bet that they'll keep a fair share of their women employees, because they have proved so good.

*A mother and daughter meet for lunch in the California sunshine, but not at home. War conditions have dictated the place—somewhere outside an aircraft factory where the mother is employed in detail assembly and her daughter is a riveter in the sub-assembly department.*

# Factory Housekeeping

*by*

Mary Hornaday

Washington Bureau of *Christian Science Monitor,* Boston, Mass.

ONCE their home problems are solved, women stand the routine, grime, and noise of war plants as well as or better than men.

That is the conclusion newspaperwomen visting plants from coast to coast on a National Association of Manufacturers' tour arrived at after talks with employers, plant welfare experts, and women workers themselves. Much of the ease with which women are changing over from home to factory life, we agreed, is due to efficient "housekeeping" practiced in America's booming wartime factories.

"Floors wet with soapy water are a constant hazard to you and to all passers-by. Walk carefully and warn others," said one plant's safety rules.

"Mops, pails, brushes, soap, and other equipment should never be left in halls, aisles, or any place where unsuspecting passers-by will fall over them.

"Falls downstairs are frequently caused by the insecure footing of high-heeled shoes or by run-over slippers which give inadequate support."

How many women in the home could profit by these safety rules stringently enforced in the factory?

Noise of riveting and metal-cutting machines bothers some women when they first enter the factory, but not for long. Once they understand what each machine is for, the din is not as nerve-racking as that of crying babies or other household noises, the girls said.

At the Republic Steel Company's Cleveland plant where an official was discussing the possibility of putting women into the rolling mill, we asked: "Do you think women could stand this ear-splitting noise?"

"It's no worse than the chatter that goes on around a bridge table," he replied.

We found women taking to factory machines as easily as to electric cake-mixers and vacuum cleaners. As we toured the 29 plants, the similarity between processes women are being hired to do in war production and those they used to do at home—and are still doing on their day off—was striking.

A woman down on her knees cutting a sheet of steel with a burner's torch at the Moore Drydock Company in Oakland, California, was using the same keen eye needed to guide a sewing machine along a cloth hem. At the Firestone Rubber Company in Akron, Ohio, women were using scrub brushes to roughen up areas where anchor ropes will be attached to barrage balloons. Instead of ironing out wrinkles in the family wash at home, another group of girls was taking them out of seams on rubber life belts.

We saw women who used to drive youngsters to school each morning now running tractors loaded with airplane parts down neat factory lanes labeled "MacArthur Avenue" and "Victory Boulevard." They are rolling up records as safe drivers, too.

Introduction of women into factories on a large scale is already having its effect on feeding facilities, we discovered. There are two major feeding methods in use—to have workers "come and get it" at a cafeteria or to have the food taken to them in mobile canteens equipped to keep food hot or cold. Women aren't so accustomed as men are to carrying lunch pails back and forth to work, or to eating just sandwiches and cold foods besides their machines. Danger of sabotage from materials or instruments brought in lunch boxes has also encouraged factory feeding.

Special pride of one Midwest plant cafeteria that feeds thousands of workers "'round the clock" daily is birthday parties and soldiers' farewells staged at the rate of six or seven a day. For 75 cents the cafeteria reserves tables, and furnishes a cake big enough for 20 persons with the words "Happy Landings" or "Happy Birthday" inscribed across the top.

One plant had arranged, at the request of its women's personnel counselor, to let girl workers into the cafeteria for lunch a few minutes ahead of the men, so they wouldn't be in danger of getting hurt in the rush. The girls in this plant also have separate time clocks for the same reason.

Only a few plants have adopted anti-fatigue musical programs. We discovered considerable difference of opinion as to the value in increasing war production. At one factory they were playing musical programs over their loud-speaker system three times a day, with request numbers sent in by workers. In time, they expected to adopt a systematically worked-out program, playing what experts say is the "right tune at exactly the right moment."

Impatient at government and community delays in furnishing day nurseries for children of working mothers, some war factories are beginning to provide their own day care facilities. At the Douglas Aircraft Company in Santa Monica, California, we received the first news of the big new day nurseries the plant is establishing to take care of about 500 children. Workers will be charged a nominal sum for leaving their young-

sters at the nursery. It will be located about three miles from the plant, for safety reasons. The Douglas Company is among those which have taken the day-care problem into their own hands after running into a number of cases of service men's wives who need work but have no place to leave the children.

Addition of women to factory forces has meant considerable construction of suitable washrooms. In general, these are designed to take care of a maximum number of employees in the shortest time at lunch periods and shift changes. Many plants have installed wash fountains, operated by a foot pedal, that have space for as many as 20 girls at one time. One employer was so proud of his plant's hand lotion, furnished to ward off skin diseases, that he insisted we make a special trip to the washroom to try it!

Most plants do not pay women lower wages than men to cover the cost of restroom installations, a practice frowned on by Washington.

Having heard rumors of beauty parlors installed in war plants as concessions to women's vanity, we inquired for them at various plants.

"We're glamorizing cartridges, not women," said one manufacturer. "We use our red fingernail polish here," he said, picking up a cartridge with a red-painted tip identifying it as a tracer bullet.

In general, women obey safety rules better than men, plant officials reported. By nature, they approach a machine more cautiously and hence do not have as many serious accidents. There is only one safety rule that employers have had difficulty in enforcing among women. They do not like to have their hair tucked up under a bandana or cap, as required by most plants. Many women prefer running the risk of getting scalped by a whirring machine to hiding their "crowning glory." Around Hollywood, where girls are especially proud of their shoulder-length bobs, this rule has been difficult to enforce. Even a helmet designed by leading stylists has not helped much.

A number of plants have added women counselors or women doctors to their staffs to look after women employees. One of these, Dr. Margaret Nelson, 30-year old physician in charge of health at Chrysler's De Soto bomber plant in Detroit, reported that the average woman working in a factory is better off physically and mentally than the average housewife. Trying to do a double job of keeping house and working eight hours in a factory doesn't leave much time for worry about one's self, she explained.

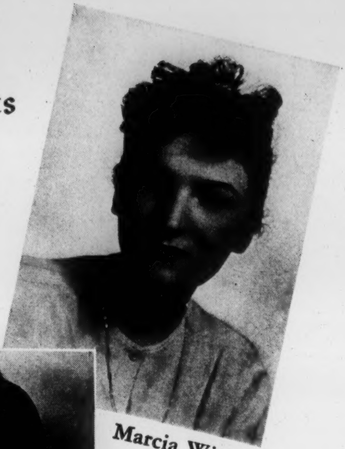
What effect will working in a factory have on a woman's housekeeping if she decides to go back to the home when the war is over?

Plant officials predict that women who decide to return home to take up household duties after the war will take with them new habits of tidiness and a new outlook. They will not be dependent on their husbands and fathers to do repairs and will be able to put many of their own ideas into practice without waiting for a handyman. Women who would otherwise be too individualistic will have learned to work in a team. Others, inclined to depreciate their own small efforts, will understand how production depends on the sum total of work done by many different people.

Much of this new strength of character will be born of the good housekeeping methods that the woman worker is learning from and is teaching the American manufacturer today.

# Some Women Newspaper Correspondents Who Participated

Bess Stephenson


Marcia Winn

Nell Giles

Janet Owen

Carolyn Anspacher

Amy Porter

Mary Hornaday

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION

## CORRECTION

PM-4390-a

The effective date of War Manpower Regulation No. 5, listed under Chairman McNutt's signature on page 7 of PM-4390, should be May 22, 1943, NOT May 1.

ADVANCE RELEASE: For Sunday Papers, May 23, 1943
Jones--WMC 760
McFall--WMC 3336

PM-4390

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION

Machinery for appeals by employees and employers from any War Manpower Commission action under employment stabilization plans, the 48-hour week policy and other manpower regulations was set up today by War Manpower Commission Chairman Paul V. McNutt with the promulgation of Regulation No. 5.

The new regulation prescribes who may appeal, actions from which workers may appeal, actions from which employers may appeal, notification of the right to appeal and officials or committees to whom appeals are originally taken. After decisions on original appeals, further appeals to the Regional Management-Labor War Manpower Committees and to the Chairman are possible.

Under Regulation No. 5, workers and employers, groups or organizations or workers or employers, and other persons and organizations who claim to be prejudiced by any action of the War Manpower Commission may request a hearing upon the action.

Under Regulation No. 5 a worker may appeal whenever the War Manpower Commission refuses to refer him to, or consent to his being hired for, employment in which, under an applicable W.M.C. order, regulation or other direction, he may be hired only upon referral by, or with the consent of, the War Manpower Commission; or when the Commission refuses to issue to him a statement of availability; or requires or permits his employer to release him under a W.M.C. policy, regulation or other direction; or determines that he is violating, or has violated any provision of any order, regulation or other direction of the War Manpower Commission.

Employers, under the regulation, have the right to appeal whenever the War Manpower Commission refuses to refer, or to consent to his hiring a worker or workers if, under an applicable War Manpower Commission order, regulation or other direction, he may hire such worker or workers only upon referral by, or with the consent of the War Manpower Commission; or issues a statement of availability to any of his workers; or requires him to release, or refuses to permit him to release, any workers; or determines that he is violating, or has violated any provisions of any order, regulation or other direction of the War Manpower Commission.

The regulation further provides that employers and workers shall be fully apprised of their appeal rights and upon request shall be given a written statement setting forth the action in question.

The regulation sets forth methods of appeal where there is an area Manpower Director and an Area Management-Labor Committee and in areas where as yet they have not been appointed.

In the former, appeals will be taken to the Area Labor-Management Committee. At the discretion of the Committee, hearings will be held before an Area Appeals Committee consisting of an equal number of representatives of management and labor - including representatives of agricultural management and labor when

(over)

agricultural employment is involved - selected by the Area Manpower Director, from a panel chosen by the Area Management Labor War Manpower Committee.

In such cases, the Area Manpower Director or his representative will serve as a non-voting chairman of the Area Management-Labor War Manpower Committee at appeals hearings and of Area Appeals Committees.

In areas which are without an Area Director and an Area Management-Labor Committee, appeals will be taken to and hearings held before an Area Appeals Committee composed of an equal number of representatives of management and labor selected by the Regional Manpower Director from a panel chosen by the regional Management-Labor War Manpower Committee. A representative designated by the Regional Director will serve as a non-voting chairman of the Area Appeals Committee.

The regulations provide that original and subsequent appeals hearings shall be conducted informally and "in a manner that will best develop the facts."

Decisions on original appeals, the regulation provides, shall be made by the Area Appeals Committee or the Area-Management-Labor Committee on the basis of evidence taken at the hearing. Decision by the majority of the Committee will be final unless the appellant wishes to appeal further, or unless the Area Manpower Director or other representative of the War Manpower Commission requests that the appeal be heard by the Regional appeal body. In the event of a tie vote, the appeal will go to the regional body. Members of the Committee may file majority and minority reports.

Further provision of the regulation permits an Area Management-Labor Committee within the appeal period and prior to the filling of a further appeal to the Regional Management-Labor Committee to take jurisdiction of, hear and render a decision, which shall supersede any decision rendered by an Area Appeals Committee, on any case assigned by that Committee to an Area Appeals Committee.

Further appeals from original decision, under the regulation, may be taken to Regional Management-Labor Committees and hearings held by these committees or, before a Regional Appeals Committee composed of equal representatives of management and labor selected by the Regional Manpower Director from a panel chosen by the Regional Management-Labor Committee. These Committees may render decisions on the basis of the record, or may schedule further hearings to be held before the Committee if in the judgment of the Committee further hearings are necessary. Regional Manpower Directors, or their representatives, will serve as non-voting chairman of the Regional Management-Labor Committees in appeals hearings and of Regional Appeals Committees.

Regional Management-Labor Committees may take jurisdiction of, hear and decide, cases assigned by that Committee to a Regional Appeals Committee in like manner as Area Management-Labor Committees can take cases from Area Appeals Committees.

Final appeal, the regulation provides, may be taken to the Chairman of the War Manpower Commission, and the Chairman may take jurisdiction over any appeal at any time and render a final decision.

Under the regulation, all appeals must be taken with such periods of time (not less than three days) - following the date of the decision appealed from as the Regional Manpower Director may prescribe. The appeal period for appeals to the Chairman of the War Manpower Commission is the ten day period following the decision appealed from.

Further sections of the regulation provide that the appellant shall be given reasonable notice of the time and place of any hearing and shall be promptly notified of the decision; that he may be represented by any duly authorized person or organization; that chairmen of committees to which appeals have been taken may consolidate those raising a common question.

An appeal of an employer from a decision granting one of his workers a statement of availability in no way stays the effect of the decision so far as the worker is concerned, the regulation provides, but the officer to whom the appeal is taken may direct that subsequent cases involving other workers of an employer and raising identical issues may be suspended pending final settlement of the issue. There is a similar provision protecting employers who are satisfied with certain decisions from which workers may appeal. In all other cases the taking of an appeal stays the action appealed from, unless the Chairman of the Committee to whom the appeal is taken specifically directs otherwise.

The regulations are not applicable to Selective Service appeals or to appeals under the WMC regulations controlling requests for occupational deferment of Federal employees. Nor are the regulations applicable to appeals arising under the Commission's directive on inter-agency transfer of Federal employees. Appeals machinery and provisions already exist for such cases.

Following is the complete text of the new regulation:

/Regulation No. 5/

Pursuant to the authority vested in me as Chairman of the War Manpower Commission by Executive Orders Nos. 9139 and 9279, I hereby prescribe the following regulation governing appeals from War Manpower Commission actions:

Sec.

906.1 Who may appeal.

906.2 Actions from which workers may appeal.

906.3 Actions from which employers may appeal.

906.4 Notification of right to appeal.

906.5 To whom appeals originally taken.

906.6 Decisions on original appeal.

906.7 Hearings before and decisions by Regional Management-Labor War Manpower Committees.

906.8 Appeal to the Chairman of the War Manpower Commission.

906.9 General provisions.

(over)

AUTHORITY: secs. 906.1 - 906.9, inclusive, issued under Executive Order No. 9139, 7 F. R. 2919, and Executive Order No. 9279, 7 F. R. 10177.

906.1. Who may appeal. The worker or employer with respect to whom the War Manpower Commission takes any action described in sections 906.2 or 906.3 of this regulation may appeal from such action. Other workers or employers, groups or organizations or workers, or employers, and other persons or organizations who claim to be prejudiced by any action taken by the War Manpower Commission may request a hearing upon such action and such hearing may be afforded in the discretion of the War Manpower Commission representative to whom the request is directed.

906.2. Actions from which workers may appeal. A worker shall have the right to appeal whenever the War Manpower Commission -

(a) refuses to refer him to, or to consent to his being hired for, employment in which, under an applicable War Manpower Commission order, regulation or other direction, he may be hired only upon referral by, or with the consent of, the War Manpower Commission; or

(b) refuses to issue to him a statement of availability; or

(c) requires or permits his employer to release him under a War Manpower Commission policy, regulation or other direction; or

(d) determines that he is violating, or has violated any provision of any order, regulation, or other direction of the War Manpower Commission.

906.3. Actions from which employers may appeal. An employer shall have the right to appeal whenever the War Manpower Commission -

(a) refuses to refer to him, or to consent to his hiring, a worker or workers if, under an applicable War Manpower Commission order, regulation or other direction, he may hire such worker or workers only upon referral by, or with the consent of the War Manpower Commission; or

(b) issues a statement of availability to any of his workers; or

(c) requires him to release, or refuses to permit him to release, any workers; or

(d) requires him to extend the workweek of any of his workers;

(e) determines that he is violating, or has violated any provisions of any order, regulation, or other direction of the War Manpower Commission

906.4. Notification of right to appeal. Any employer or worker who has a right to appeal from an action of the War Manpower Commission as provided in Section 906.2 and 906.3 of this regulation, shall be fully apprised of his appeal rights and , upon request, shall be given a written statement setting forth the action in question.

906.5. To whom appeals originally taken. (a) In areas for which an Area Manpower Director and an Area Management-Labor War Manpower Committee have been appointed, appeals shall be taken to such Committee and hearings shall be afforded before such Committee, or, at the discretion of that Committee, before an Area Appeals Committee composed of an equal number of representatives of management and labor (including representatives of agricultural management and labor when agricultural employment is involved), selected by the Area Manpower Director from a panel chosen by the Area Management-Labor War Manpower Committee. The Area Manpower Director, or his designated representative, shall serve as the non-voting chairman of the Area Management-Labor War Manpower Committee in appeals hearings and of Area Appeals Committees.

(b) In areas for which an Area Manpower Director and an Area Management-Labor War Manpower Committee have not been appointed, appeals shall be taken to, and hearings shall be afforded before, an Area Appeals Committee in the locality composed of an equal number of representatives of management and labor selected by the Regional Manpower Director from a panel chosen by the Regional Management-Labor War Manpower Committee. A representative designated by the Regional Manpower Director shall serve as the non-voting chairman of the Area Appeals Committee.

(c) All hearings on original and subsequent appeals shall be conducted informally and in a manner that will best develop the facts.

906.6. Decisions on original appeal. (a) The decision on an original appeal shall be made by the Area Appeals Committee or the Area Management-Labor War Manpower Committee on the basis of evidence adduced at the hearing. The decision by a majority of the Committee shall be final unless the appellant wishes to appeal further, or unless the Area Manpower Director or other representative of the War Manpower Commission requests that the appeal be heard at the Regional level. In the event of a tie vote, the appeal shall be heard at the Regional level. Members of the Committee may file majority and minority reports.

(b) An Area Management-Labor War Manpower Committee at any time after the assignment of a case to an Area Appeals Committee and prior to the expiration of the appeal period and prior to the filing of a further appeal to the Regional Management-Labor War Manpower Committee, may take jurisdiction of, hear and render a decision, which shall supersede any decision rendered by an Area Appeals Committee, on any case assigned by that Committee to an Area Appeals Committee.

906.7. Hearings before and decisions by Regional Management-Labor War Manpower Committees. (a) Further appeal from decisions on original appeals shall be taken to the appropriate Regional Management-Labor War Manpower Committee and hearings shall be afforded before such Committee, or, at the discretion of that Committee, before a Regional Appeals Committee composed of equal representatives of management and labor selected by the Regional Manpower Director from a panel chosen by the Regional Management-Labor War Manpower Committee. Such Committees may render a decision on the basis of the record in the case, or may schedule a further hearing to be held before the Committee if in the judgment of the Committee such further hearing is necessary. The Regional Manpower Director, or his designated representative, shall serve as the non-voting chairman of the Regional Management-Labor War Manpower Committee in appeals hearings and of Regional Appeals Committees. A decision shall be rendered and further appeal permitted as provided in Section 906.6 (a) above.

(b) A regional Management-Labor War Manpower Committee may at any time after the assignment of a case to a Regional Appeals Committee and prior to the expiration of the appeal period and before the Chairman of the War Manpower Commission has taken jurisdiction over a case, hear and render a decision, which shall supersede any decision rendered by a Regional Appeals Committee, on any case assigned by that Committee to a Regional Appeals Committee.

906.8. Appeal to the Chairman of the War Manpower Commission. At the direction of the Chairman of the War Manpower Commission, he may take jurisdiction over any appeal and render a final decision on that appeal. The Chairman of the War Manpower Commission shall render a final decision on all cases appealed from a decision of a Regional Appeals Committee or of a Regional Management-Labor War Manpower Committee. The Chairman of the War Manpower Commission in rendering a decision shall consider the record in the case and recommendations submitted by the Management-Labor Policy Committee.

906.9. General provisions. (a) Appeals periods. All appeals must be taken within such periods of time (but such period shall be at least three days) following the date of the decision appealed from as the Regional Manpower Director may prescribe. The appeal period for appeals to the Chairman of the War Manpower Commission shall be the ten day period following the rendition of the decision appealed from.

(b) Notice of hearings and decisions. The appellant shall be given reasonable notice of the time and place of any hearing upon his appeal and shall be promptly apprised of the decision.

(c) Right to representation. Any action which any person or organization may take under this regulation may be taken on his behalf by his duly authorized representative.

(d) Consolidation of appeals. Whenever appropriate for the full and expeditious determination of common questions raised by two or more appeals, the Chairman of the Committee to whom such appeals are taken may consolidate them.

(e) Effect of appeal on action appealed from. Whenever the War Manpower Commission issues a statement of availability to any worker or permits or requires an employer to release a worker, the appeal of the worker or employer, respectively, shall in no way stay the action as to the worker or employer satisfied with the action, but the officer to whom the appeal is taken may direct that subsequent cases involving other workers of the employer and raising identical issues be suspended pending final settlement of such issues. In all other cases the taking of an appeal shall stay the action appealed from, unless the Chairman of the Committee to whom the appeal is taken specifically directs otherwise.

(f) Inapplicability to Selective Service appeals. Nothing in this regulation shall be construed as applicable to action taken under the Selective Service and Training Act of 1940, as amended, or Executive Order No. 9309, or to transfers between Executive departments or agencies of the Federal Government under Executive Order No. 9243.

(g) War Manpower Commission. The term "War Manpower Commission" includes any officer, employes, agent or agency designated by the War Manpower Commission.

(h) Modification of other policies. The provisions of any prior War Manpower Commission policy, regulation or other direction, to the extent that they are inconsistent with this regulation, are hereby modified to conform with the provisions of this regulation.

Paul V. McNutt

Chairman
War Manpower Commission
May 1, 1943

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# U.S. LABOR PRESS SERVICE

NEWS OF THE WAR AND LABOR'S PART IN IT

EDITORS: This weekly clip sheet is a cooperative effort of U. S. war agencies to inform labor of the war's progress, to tell the story of the workers' efforts in the war, and to suggest how the Labor Press can help specific war programs. Represented are: War Production Board, War Labor Board, War Department, Navy Department, Maritime Commission, War Manpower Commission, Office of Civilian Defense, Office of Price Administration, Office of Defense Transportation, and Nutrition in Industry, Division of Food Distribution Administration.

FEBRUARY 28, 1944

# NEW WMC APPEALS RULES

Washington -- As a result of action taken by the national Management-Labor Policy committee, the War Manpower Commission has revised its appeals procedure covering the issuance of statements of availability.

The amended regulation:

(1) Gives any interested party the right to appear and to be heard at the area hearing.

(2) Limits the vote at the hearing to equal numbers of management and labor representatives.

(3) Makes it necessary that each worker and employer be advised of his appeal rights when informed of the decision in his case.

(4) Limits appeals to evidence presented at the area hearing.

(5) Provides unrestricted right of appeal to all interested parties.

(6) Makes final any statement of availability issued.

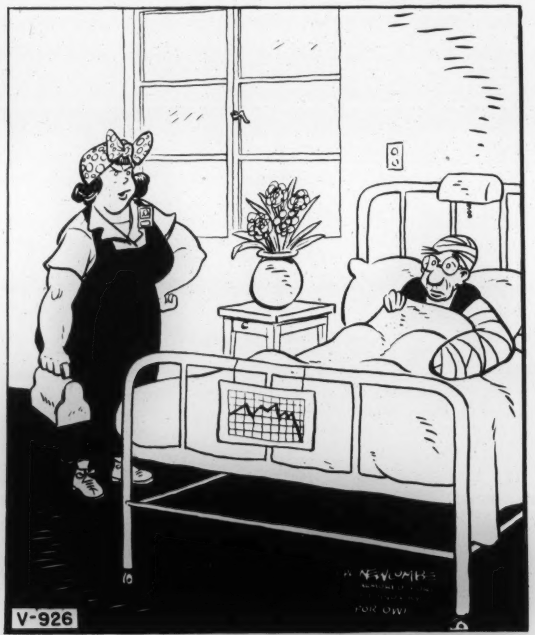
(7) Limits the appeals steps to three--the appeal panels representing the area, regional and national management-labor committees.

(8) Speeds up the handling of appeals.

The changes were largely the result of the efforts of Frank Fenton, representing the American Federation of Labor, and Michael Ross, representing the Congress of Industrial Organizations, to change the appeals machinery so as to eliminate certain injustices and to include certain procedures that had been adopted unofficially because appeals panels found them practical in meeting the problems brought before them. The revisions represented a compromise between the positions of labor and management representatives on the national committee. In its final form, the amended regulation was unanimously approved.

The changes, as explained by Nelson Cruikshank, a member of the national appeals panel and assistant to the labor members on the

(continued on page three)



"IF YOU WATCHED YOUR MACHINE AS MUCH AS THAT BLONDE YOU WOULDN'T BE LOSING TIME!"

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## MILLION FEWER INJURIES IS GOAL

Washington -- A million fewer injuries in 1944--that is the goal set by Secretary of Labor Frances Perkins at a meeting of the Labor Department's National Committee for the Conservation of Manpower in War Industries. Achievement of the goal would mean a 40 per cent reduction of injuries from the 1943 total of nearly 2,500,000 injuries.

The reduction would result in saving about 22 million days of work, Miss Perkins said. In manufacturing alone it would increase the number of workers on the job by 24,000 each day.

The size of the task, Miss Perkins said, will make it necessary for the Labor Department to confine its own program to manufacturing establishments engaged directly in war work. "Nevertheless," she went on, "the department has a definite interest in the safety of wage earners in every type of work."

## Labor Story of the Week

### LABOR AND MANAGEMENT COOPERATION NEEDED IN PLANNING PRODUCTION SHIFTS

Chicago -- The same kind of cooperation by labor and management that has resulted in the progress of the war production job to date will be needed to solve problems arising from contract terminations when victory finally is won, Brig. Gen. Albert J. Browning, Director of Purchases for the War Department, declared in an address here.

These problems, Gen. Browning asserted are so difficult that they "deserve the careful study of those in government, labor, business and the nation as a whole."

Explaining that the job of procurement for the Army Ground Forces is moving into the replacement phase, Gen. Browning said the task of supplying the equipment needed for the "original issue" has been largely completed. This, he said, does not mean overall volume of procurement will be greatly reduced, the total scheduled for 1944 being only slightly less than in 1943.

Gen. Browning did not include production of equipment for the Air Forces, which is scheduled to be increased 75 per cent in dollar volume over the 1943 total.

Gen. Browning lauded the part played by both labor and management in war production and said the Army was "deeply grateful for the help, cooperation and tireless effort....in the accomplishment of the great task we have been engaged in."

Unfortunately, Gen. Browning said, there had been a few exceptions among selfish or ill-advised individuals in the ranks of labor and industry, and these have received front-page publicity. "But these are the exceptions," he insisted. "Cooperation and mutual understanding have been the rule."

Emphasizing that the job of settling terminations promptly and fairly can be accomplished only by continued cooperation between government, industry and labor, Gen. Browning gave assurance that the War Department is willing to do more than its share to insure such cooperation and "feels a keen sense of obligation to its contractors and their employees to do so."

The men in the Army upon whom the responsibility rests for solving these problems not only welcome but seek the advice of the best brains in America, the General said. He added:

"Never before in the history of the world have such industrial and military problems been faced and solved as have been in the case of this country of ours before and since Pearl Harbor.

"Victory today is assured. When, no man can say. Regardless of the date when it does arrive, when the cheering has subsided, we will face a new mass of problems so exceedingly difficult of solution that they deserve the careful study of those in government, labor, business and the nation as a whole."

Gen. Browning declared that the survival of the American system--a government that functions as servant of the people--is the mutual aim of those in the Armed Forces and the men and women in industry.

The leaders of the Army, Gen. Browning said, have a "deep feeling of regard and appreciation" for those have assisted in delivering to our troops and our Allies "the fantastic quantities of superior weapons necessary to win this war with minimum loss of American soldiers. For them I express....their heartfelt thanks for a miraculous job well done."

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OFFICE OF WAR INFORMATION
WASHINGTON

February 23, 1944

Restricted - Not for Publication

Dear Editor:

It was difficult this week to determine which was our "Labor Story of the Week".

Since we were changing our makeup to save space, we ran one story about WMC's appeals procedure change on the first page and called General Browning's speech the story of the week. Even this arrangement overlooks the Baruch report and the WLB story about the necessity of union members ratifying contracts. All, we felt, were unusually significant stories.

The WMC changes were somewhat complicated so we interviewed Nelson Cruikshank to get a comprehensive explanation of them. The WMC management-labor policy committee is anxious that these changes be fully understood by war workers and union officials so we devoted considerable space to the story.

Gen. Browning's speech, the report of which was supplied to us by the War Department, and the Baruch report are evidence of the thought being given to production shifts. We realize labor's tremendous interest in production changes and will continue, as in the past, to send you all announcements and statements from government sources that come to our attention.

Sincerely,

Boyd Simmons

Boyd Simmons, Chief
Labor Desk, News Bureau
Office of War Information

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### YOUTHS ORGANIZE RESISTANCE

Young people in Belgium who have succeeded in evading the Nazi yoke are forming a Youth Freedom Front, the underground press reveals in an article reported to OWI. Those who escape deportation are asked to sign an oath of loyalty in which they pledge themselves never to work for the enemy, to urge friends to resist deportation, to maintain absolute secrecy and remain in hiding, and to devote themselves entirely to the service of their country. Those who take the oath are entitled to help and direction from the organization.

(continued from page one)

Management-Labor Policy committee, will have the following effect:

Any interested person may now appear and speak before an area appeals panel at the discretion of the chairman. In the past, if John Jones wanted to transfer from Plant A to Plant B because Plant A was not using his full skills, the panel heard evidence from Plant A and the workers. Plant B, which might have greater need for him at higher skills, was not considered a party to the case. From now on Plant B will have the right to intercede.

Or an employer might be appealing against a 48-hour work week regulation. The revised regulation gives the union or workers involved the right to appear before the panel.

Gives labor and management equal vote. In the past, Cruikshank points out, each side had equal representation on an appeals panel but if any representative was absent the others attending all had the right to vote. The new regulation limits voting to equal numbers on each side.

Informs workers and employers of their appeal rights. In the past, they received a communication which told them they could appeal. It will now tell them how they can do so if they desire to appeal.

One of the most important changes is the limiting of appeals to evidence submitted at the area level. In the past, new evidence could be submitted by either the worker or management at the regional hearing or even at the hearing at Washington. This procedure was considered by Railroad Brotherhood representatives as "sloppy procedure", Cruikshank said, and it was they who suggested that the evidence be restricted to that submitted at the area level, as is done under the Railway Labor Mediation Act. This will speed up appeals handling and increase the importance of the initial hearing.

This change does not prevent the introduction of new evidence where it is needed. The regional or national panel or committee can request new evidence or can refer the case back to area for re-hearing where additional facts are pertinent.

Unrestricted right of appeal. The revised regulations gives workers or employers unlimited right to appeal any WMC decision which they consider unfair or unreasonable, or which directly or indirectly affects their interests.

In the past, only an employer could appeal against a 48-hour week ruling, an employment ceiling, recommendations of a manpower utilization study or hiring priorities. Now a worker or his union may appeal.

For example, in the past a union like the Brotherhood or Railway Clerks whose contracts in some places provides for 48 hours pay for 44 hours work could not have appealed when ordered to work 48 hours even though the extra hours would have brought the clerks no extra income. Now they have the right to appeal.

Another example: If a worker was refused a statement of availability by his employer but granted one by the USES, the employer could appeal the USES' action. However, if the employer was upheld by the area panel the worker had not the right to appeal since past procedure considered the hearing to have been a conflict between the USES and the employer, with the worker no party to it. His interest and right to appeal is now recognized.

A statement of availability once issued, stands. The employer, under revised regulations, may appeal as a matter of principle or precedent but he cannot demand that the statement of availability be withdrawn or that the worker be required to leave his new employment.

This formalizes the policy of the management-labor committees. Employers in the past have complained that they were winning their appeals but losing workers. The national management-labor committee has for some time taken the position that, since job controls are more restrictive on the worker than upon the employer, it was unfair to recall a worker after he had shifted to another job with a statement of availability even though the decision granting the statement had been appealed and overruled, Cruikshank said. It held that the employers were losing some workers but not enough to make a serious issue and that they won a victory since the upholding of their appeals set precedents which prevent issuance of further statements under the same circumstances.

In order to review the USES action, however, in special cases, the area director may, after consulting with his management-labor committee, suspend for three days the statement of availability granted to a worker in order to give the employer time to appeal. If the employer fails to appeal within the three days, or if the appeals panel fails to act on the case within ten days after such an appeal is made, the statement automatically becomes effective.

This optional procedure, according to Cruikshank, will be invoked only in cases involving judgment, such as when a worker charges he is not being employed to the fullest utilization of his skills or cases in which undue personal hardship is an issue.

Limiting appeals steps to three. In the past, Cruikshank pointed out, some appeals have been made to an area management-labor committee after an area appeals panel had rendered a decision. This was especially true where area committees covered an entire state, as in Arizona. In such cases, he said, a panel might meet in Tucson and the appeal be made from its decision. The revised regulation makes the area panel's decision the decision of the area management-labor committee.

These changes will speed up the handling of appeals.

"Speeding appeals procedure was the motive in most of these changes," Cruikshank stated. "After all, an employer or worker may win his appeal but if it takes 90 days, it is really an empty victory."

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Chinese labor is being pressed into service in Japanese coal mines, according to a dispatch reported to OWI by government monitors. This is the first time Chinese labor has been used in mines, they report.

## Future Outlook

### NO NEED FOR POSTWAR DEPRESSION - BARUCH

Washington -- Prosperity "sound and lasting" and "a world requiring the things we can supply--an unlimited market for our products," are visualized in a letter signed by Bernard M. Baruch and John M. Hancock, which accompanied their report to War Mobilization Director James F. Byrnes, on war and postwar adjustment policies.

"There is no need for a postwar depression," the letter added. "Handled with competence, our adjustment after the war is won. should be an adventure in prosperity."

The concluding paragraph in the letter says that "while the producers should be restrained from excessive profits during the war, the workers as long as hostilities are on. should refrain from strikes. No grievance, however just, should be permitted to slow our march to victory."

The specific assignment, the letter says, was the study of immediate mobilization policies "which have to do, necessarily, with the stimulation of the war effort, since victory is the first essential, and with the preparation for the peace to follow victory--to win the war and to prepare for peace."

Ten points are then set down as considerations for first importance:

1. "Getting us all back to work in peacetime enterprises. This may require a special authority....to give its entire attention to the problem of bringing jobs to all workers, with emphasis laid upon service men and service women who are our first concern."

2. Taking the government out of business by payment for all work done and under way, moving out and storing war materials from plants so as to make room for equipment and materials for civilian production, and by centralizing the control and disposal of surpluses in such a way as to bring them into ready and effective use and insure orderly markets.

3. General tightening up of the industrial war front "so as to finish the bloody business with finality and thus be ready for peace."

4. Spreading acceptance by war contractors of the "Uniform Contract Article".

5. Placing all war agencies under running review to cut them down as their work dwindles.

6. Immediate extension of laws governing price control, priorities and requisitioning.

7. Early engineering on public works to be ready, if needed, to avert unemployment.

8. Credit means for those requiring it during the adjustment period, particularly for the smaller business men and returning service men.

9. Preparing for future action to reduce taxes from war to peacetime levels.

10. Preparing an emergency "X" day reconversion plan to be used in the event of a sudden collapse of Germany while still continuing the war against Japan.

"Transition from a war economy to that of peace is not easy," the letter goes on. "In our reconversion we shall try, as this country always does, to cure the things that caused us worry and to strengthen the good; to hold to the proven but be ready to test the new. That is progress."

The change-over, which is characterized as of "gigantic nature", "affects every part of our economic life. Nothing comparable ever has been known before," the letter adds.

As one indication of the size of the job, the letter cites that about 50 billion dollars of the current annual production represents strictly war goods--"that is, things which when peace comes, we will stop making. This gap must be filled in large part by civilian production and services if we are to keep the needed volume of production," the letter says.

Demobilization of the armed forces will come gradually, the letter continues, and their absorption by industry will be aided by several factors such as women giving up their jobs, retirement of older workers, return of many younger workers to school, renewal of many professional and service businesses that have stopped, normal enforcement of child labor laws, reduction of the work week, and the increase of travel and recreation time.

"Net increase in employment from 1937 to 1944 is estimated at 7,600,000 people," the letter continues. "Considering factors mentioned the problem of demobilization, though difficult, is soluble--if we create the atmosphere in which private initiative and resourcefulness--the traditional American apirit--can again take hold.

"In the reconversion and readjustment," the letter goes on, "will come improvements in our standards of life--better houses, better clothes, better food, better safeguards for children, better health protection and wider educational opportunities. These bring hope for the future instead of fear; they give security instead of unrest. Our soldiers will not be let down. They are our chief concern. No pressure groups of self-seekers will take our thoughts from the duty we owe them."

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### V-MAIL LETTERS ARE NEVER LOST

Washington -- Not a single V-Mail letter of the 200 million sent overseas has been lost, the Army and Navy Post Offices announced. During two months in 1943, at the height of the ship sinkings in the Atlantic, 30 per cent of the ordinary mail sent overseas was lost. But V-Mail letters will always be delivered because the original letters are not destroyed until the film on which the letters are recorded arrives at its overseas destination, is developed and the letters delivered.

When the Pan-American clipper was lost at Lisbon last year, the 300,000 V-Mail letters aboard were the only part of the cargo salvaged. The letters, which were carried on rolls of film, were immediately reproduced and flown overseas.

## SUGGEST 8 STEPS IN CANCELLATIONS

Washington -- Eight steps tightening the handling of cancellation of war contracts are suggested in the report on war and postwar adjustment policies submitted to War Mobilization Director James F. Byrnes by Bernard M. Baruch and John M. Hancock. They are:

1. Prompt cancellation of war contracts as soon as it is seen goods are no longer needed.

2. Procurement agencies to inform WPB of possible cancellations or cutbacks as soon as they begin to think of them.

3. WPB to work out in advance the policies governing the choices as to which producers should be cancelled and which left in production.

4. Actual choices to be made after full consultation with WPB, WMC and other interested agencies.

5. Contract cancellations be guided first by what will contribute to a more efficient prosecution of the war.

6. With war needs satisfied, contract cancellations will be guided secondly by what will contribute to the quick balanced resumption of civilian production and to an orderly changeover from war to peace.

7. Contract cancellation to be integrated with procurement and expansion of civilian production so that facilities and manpower which are now released are shifted to new war work or, as far as practicable, to expanded civilian production.

8. A full, frank information policy on all cutbacks and cancellations.

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## MC NUTT COMMENTS ON BARUCH REPORT

Washington -- "It is satisfying to note that the Baruch report lays special emphasis on the need of orderly handling of contract cancellations and production revisions to insure successful completion of our war effort," WMC Chairman Paul V. McNutt said in commenting on the report of Bernard M. Baruch, chief of the War and Post-War Adjustment Unit of the Office of War Mobilization.

"From the standpoint of the nation's manpower we believe that unless clear cut controls are established in dealing with these changes, there will be not only confusion, but also waste of sorely needed human resources," McNutt said. "Fundamental to these controls is the recognition that we must protect the manpower balance in areas in which there are to be cutbacks.

"This can only be done by the careful planning and close cooperation of the procurement branches of the armed forces, the War Production Board and the War Manpower Commission. This is the step which we must take to use the strength and skill of all our manpower to the greatest possible degree."

## LABOR TO BE CONSULTED ON INDUSTRY SHIFTS

Washington -- Labor will be consulted on the same terms with industry in working out the readjustments and shifts of production that are to come, WPB Chairman Donald M. Nelson told top officials of organized labor at a meeting here.

Among those who participated at the meeting were AFL President William Green and CIO President Philip Murray.

Nelson told the labor officials that 1944 will see some major shifts in production emphasis, which he attributed to changing demands of the fighting forces. The overall schedule of the munitions program, he emphasized, will remain at about the present level.

The meeting was similar to one held a few weeks ago with a group of leading industrialists. "As you know," Nelson told the labor officials, "we have already provided that plans and proposals for resumption of civilian production will be taken up in detail with Industry Advisory Committees. I can assure you we are making arrangements to provide for identical consultation with labor representatives.

"We are going to be cutting down on some types of munitions because in certain cases we have built up adequate stockpiles," he said. "However, let us be perfectly clear about one thing: even though some of us can stop making certain munitions which are now in surplus, very few of us are going to be able to return to the production of civilian items. The expanding munitions program will continue to require the energies of an overwhelming proportion of labor and management.

"In spite of all the talk about reconversion there is little of it actually in the cards until after Germany has been defeated. The most critical period of the war, from the military standpoint, still lies ahead. It would be a catastrophe if we should mislead ourselves into slackening our efforts just at the time when the best that we have in us is critically needed."

Besides Murray and Green, among the other officials participating in the meeting were:

Russ Nixon, United Electrical, Radio and Machine Workers of America, CIO; Irving Blumberg, Amalgamated Clothing Workers, CIO; Reid Robinson, Mine, Mill and Smelter Workers of America, CIO; Nicholas Zonarich, Aluminum Workers of America, CIO; Frank Tobin and Dave Beck, International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America, AFL; H. W. Brown, International Association of Machinists, AFL; Thomas Owens, United Rubber Workers of America, CIO; Joseph Curran, National Maritime Union of America, CIO; Philip H. Van Gelder, Industrial Union of Marine and Shipbuilding Workers of America, CIO; Martin Durkin, United Association of Plumbers and Steam Fitters of the United States and Canada, AFL; Edward Flore, Hotel & Restaurant Employees International Alliance & Bartenders International League of America, AFL; Ed. J. Brown, International Brotherhood of Electrical Workers, AFL; Richard J. Gray, Building & Construction Trades Dept., AFL.

## The Manpower Outlook

### NEW HIRINGS DECREASE

Washington -- For the first time since the war begain, new hirings in manufacturing industry during December fell "substantially below" separations, the Bureau of Labor Statistics reports.

The labor accession (new hiring) rate for December was 5.10 as compared with 6.51 for November and 6.92 on December 1942. The total separation rate, in comparison, was 6.39 in December as compared with 6.29 in November and 6.37 a year ago.

Secretary of Labor Perkins stated that the decline in hirings, combined with an increase in the layoff rate during December, resulted in an overall decline in manufacturing employment.

The layoff rate increased from .70 in November to .94 per 100 employees in December, she said. The highest layoff rate--4.5 per 100 employees--among major industries was reported by chemical groups. Cancellations of contracts resulted in a layoff rate of 13.65 per 100 employees for the small arms ammunition industry, which has accumulated large stockpiles. Women were affected more than men by the small arms ammunition layoffs, according to the Secretary, 12 men out of every 100 leaving the industry as compared with 18 out of every 100 women.

### HIGHEST TURNOVER RATE OF WAR

Provo, Utah -- The highest turnover rate of the war was reported by this area during November when this Group I area announced that 93.3 per cent of all workers in the community has left their jobs during the month.

Layoffs, due mainly to contract cancellations which closed a nearby small arms ammunition plant, resulted in the layoff of 76 out of every 100 workers in the area. In addition, 15 out of every 100 workers in the area quit their jobs rather than wait to be laid off.

Employment in the community fell to a total of about 1,300. Most of the workers found jobs in nearby Salt Lake City.

### FARMERS MUST PRODUCE MORE

Washington -- Selective Service Headquarters has notified local draft boards to review deferments of farm workers to see if they are meeting the increased crop production goals for 1944.

Under the Tydings Amendment, men found by local boards to be regularly engaged in, and essential to, agriculture must be deferred. Last year farmers were deferrable if they produced eight agricultural units. This year that production must be doubled.

Selective Service said the new policy was necessary because of the tightened manpower situation.

## Production; Labor at Work

### 1943 ALUMINUM OUTPUT 75% OVER 1942

Washington -- Primary aluminum production in 1943 exceeded 1942 output by more than 75 per cent, amounting to more than 1,800,000,000 pounds, WPB reported. The year's production peak was reached in the last quarter when an average of more than 185,000,000 pounds a month was attained.

Aluminum recovered from secondary sources exceeded 500,000,000 pounds in 1943. The peak was reached in December with 55,000,000 pounds. In that month the primary and secondary production was almost three times as much as in January 1942, the first month after Pearl Harbor.

A false notion that steel producers can relax their efforts was scouted by John T. Whiting, WPB Steel Division Director. Whiting said that while it is true that reductions in some military programs have resulted in slightly lower military requirements, this has been offset by increased need for steel in many essential non-military items, and he specifically cited the stepped-up requirements for railroad equipment, track material, farm machinery, gas and oil facilities, and food containers.

"A few producers have idle capacities, a result of lack of demand in their particular territory or for their specific product," Whiting said. "However a careful check of the order book positions of all producers indicates that the industry in general is very well booked and should operate close to capacity during the first half of the year."

### MARITIME PENNANTS AWARDED

Washington -- Maritime "M" pennants given in recognition of outstanding production achievement have been awarded to two shipyards, the U. S. Maritime Commission announced. One went to the J. A. Jones Construction Co., Inc., Wainwright Yard, Panama City, Fla., (Metal Trades Council, AFL), for outstanding production in construction of Liberty Ships and special types for military service. Barret and Hilp, Belair Yard, San Francisco, (Metal Trades Council, AFL) also received a pennant for outstanding production in construction of concrete ships.

Star awards also were made to seven yards: first gold star, St. Johns River Shipbuilding Co., Jacksonville, Fla., (Metal Trades, AFL) and J. A. Jones Construction Co., Brunswick Shipyard, Brunswick, Ga., (Metal Trades, AFL); third gold star, Southeastern Shipbuilding Corp., Savannah, Ga., (Metal Trades, AFL); fourth and fifth gold stars, New England Shipbuilding Corp., South Portland, Me., (Industrial Union of Marine and Shipbuilding Workers, CIO); eighth gold star, Delta Shipbuilding Co., Inc., New Orleans, La., (Metal Trades, AFL); ninth gold star, Houston Shipbuilding Corp., Houston, Tex., (AFL and CIO).

The Consolidated Steel Corp., Ltd., Los Angeles, has been awarded the Maritime Merit Eagle Pennant for exceptional production achievement in merchant ship production and conversion.

### L-M COMMITTEES NOW NUMBER 4,000

Washington -- Labor-management committees, established for the purpose of improving and expediting output of vital weapons and equipment for the armed forces, are now functioning in more than 4,000 war plants employing more than 7,000,000 workers, T. K. Quinn, director general of the War Production Drive reports.

Quinn said he hoped the number of committees will increase further, "and that every committee will redouble its efforts so that we can meet the higher overall production schedule of '20 per cent more in '44.'

"The record made by labor-management committees this far is a splendid illustration of the progress which is possible when management and labor, working together for victory, pool their ideas and efforts," he said. "Since their inauguration, these committees, established voluntarily by leaders of management and labor at the suggestion of the WPB, have performed untold service for our armed forces by increasing and improving production in shipyards, mines, mills, factories and lumber camps throughout the nation.

"The records of the WPB contain thousands of examples of how these joint committees have speeded the output of vital weapons and equipment, improved manpower utilization, reduced absenteeism and accidents, conserved essential materials and salvaged thousands of tons of critical metal."

By industrial classification, the ordnance industry, including all types of gun, ammunition and tank production, has the largest number of L-M committees, with 520, representing more than 1,065,000 workers. Plants building ships and ship parts are represented by 170 committees and 1,051,000 workers; iron and steel plants have 423 committees with more than 700,000 workers; and plants making aircraft and aircraft parts, 158 committees and approximately 775,000 workers. More than 750,000 workers are represented by War Production Committees at 48 shore establishments of the Navy.

Approximately 55 per cent of the committees represent plants employing from 100 to 1,000; 21 per cent from 1,000 to 5,000; 15.5 per cent from one to 100; 4.1 per cent from 5,000 to 10,000; and 4 per cent, more than 10,000.

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### WELDER IS BOND-CONSCIOUS

Washington - Wade J. Broussard, welder employed by the Higgins Industries in New Orleans, La., (Metal Trades-AFL) is putting all but $1 of his weekly pay check into War Bonds -- after social security, old age benefits and withholding tax are deducted, the War Finance Division reports. The fact that he and his brothers "live off the land" on a 500-acre parental homestead they inherited-enables him to get along on his meager allowance.

During the Fourth War Loan, Broussard, who is 37 and has been with Higgins 15 months, invested $1,000 through his machine shop group, bringing his holdings to $10,000. During the last 12 months on his job he has not been absent a day.

## Wartime Living

### "BOOM TOWN" HAS OUTSTANDING RECREATION PROGRAM

Washington -- Not long ago a bad explosion occurred in a powder plant in Elkton, Md., injuring 50 workers. The other employees - mostly young girls - were badly shaken. Some wanted to quit. That night an impromptu dance was organized. The next day the girls were back at their benches, mindful once more of the importance of making gunpowder for Uncle Sam, regardless of personal danger.

This incident, reported by the Recreation Division of the Office of Community War Services, was cited by the OWI as illustration of the place of recreation in war production. Last fall, Elkton reported one of the greatest decreases in turnover quit rates in the nation, WMC records show. The quit rate fell from 5.9 in July 1943 to 3.7 in September. The September rate was the lowest of any industrial area. Local plant officials attributed 20 or 25 per cent of this reduction to improvement in recreation, the balance to improved housing and transportation and a wage increase at the powder plant.

Elkton is a typical war "boom town". It has one major war plant, Triumph Explosives, employing 10,000, and two minor plants. About 75 or 80 per cent of the workers are women, 33 per cent Negroes. Production and maintenance workers belong to UMW-CIO.

When the influx began, workers had nothing to do except walk the streets in droves. Under Maryland Blue Laws, Sunday movies were not permitted. Townspeople were hostile toward the strangers. Now Sunday movies are shown without charge to war workers and soldiers, and an active recreation program has been established with the help of field representatives of the Recreation Division. It is directed by the recreation staff of Triumph Explosives, the managers of the housing units built by the FPHA, and representatives of USO.

The plant organized soccer, softball and basketball teams and bowling leagues for men and women. Three times recently it has brought "name bands" for dances and once for a national broadcast. The plant pays the heavy expenses, charges workers a small fee. A recreation subcommittee of the War Production Drive labor-management committee has been set up.

A big recreation building has been built at the single girls' housing unit, where most major events are held. Two dances are held each week, to which service men nearby are invited. Other events include square dancing, a hill-billy program, athletic events, Sunday vespers, choir and glee club, a dramatic club, bridge club, dancing classes, and parties for the girls at the hall. Workers and service men are also free to drop in.

Downtown, an old house has been remodeled by the USO as a hangout for war workers and service men. They offer informal entertainment like craft classes, game nights, and "Make a Record and Send it Home". There is a kitchen where girls may prepare a meal.

The diversity of recreation for war workers in Elkton is called "outstanding" by the Recreation Division.

### RECREATION GIVEN MORE ATTENTION

Washington -- To improve efficiency and reduce turnover and absenteeism among war workers, more than 740 new community recreation centers have been opened in 225 critical production areas, OWI reports.

The Division of Recreation, U. S. Office of Community War Services, FSA, is helping to get programs under way in places where lack of adequate recreation has been one of the hindrances to full production. Other government agencies concerned in varied aspects of community recreation programs are WMC, Federal Public Housing Authority, FWA, and the Government Division, War Production Drive Headquarters and Office of Labor Production of WPB.

The communities were selected on the basis of the WMC's list of critical labor shortage areas. As a rule, the community itself has shouldered the major responsibility with Federal, State and local cooperation. Some 1,300 war recreation committees have been established in many communities with war plants, through the cooperation of the Recreation Division's 76 field representatives. Many unions have been active in setting up programs as have War Production Drive Labor-Management Committees and plant personnel departments.

The division's program is based on recognition of the fact that men and women who spend long hours operating lathes or drill presses or clambering over ship hulls laden with heavy welding lines need a chance to relax off the job if they are to stay at top efficiency. When healthy and alert they can work longer on precision jobs and are less likely to have accidents or spoil work. Also recreation may tip the scales in favor of their remaining on the job if they live under abnormal conditions.

WPB's Office of Labor Production points out that workers who have moved into war congested areas - particularly those who came without their families - need opportunities for wholesome recreation. Attention to recreational needs of children during wartime is important because in many families both parents are working or the father is in the armed forces or working in a war job away from home.

Advent of women into industry has increased need for recreation programs, since few factories had programs set up for women, and women tire more easily. When without family ties, they may quit their jobs if they don't have anything to do in off hours.

The President's Committee on Congested Production Areas reports the problem is severe in areas expanded far beyond normal capacity by the influx of war workers. Like poor housing and transportation, inadequate recreational facilities may cause turnover.

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### JAP LABOR CONSCRIPTION EXTENDED

Japan has extended the age limits for conscription for war work to 12 to 60 for men, and 12 to 40 for women, a Domei dispatch reported to OWI by government monitors reveals. Previously the age limits were 16 to 45 for males, 16 to 25 for females.

## The War Labor Board

### INTERNATIONAL UNION RATIFICATION APPROVED

Washington -- The right of a union to require ratification of a collective bargaining agreement by both its local membership and by the International Union with which it is affiliated is a fundamental democratic principle in the field of industrial relations, the WLB Shipbuilding Commission ruled last week.

The commission determined that an initialed agreement arrived at by Local 38 of the Industrial Union of Marine and Shipbuilding Workers, CIO, and Robert Jacob, Inc., operating a shipyard at City Island, N. Y., did not constitute a bona fide contract since the International Union refused to ratify all the terms of the agreement. The commission directed the company and the union to negotiate on the terms of a contract which would be subject to ratification by the local membership and the international.

The old contract between the company and the union expired in February, 1943, but because of the claim of another union to bargaining rights at the yard and a subsequent NLRB election which established the bargaining rights of the IUMSWA-CIO, the parties did not start negotiations on a new contract until March 1943.

The disputed initialed agreement resulted from these negotiations.

The international union objected to certain of the provisions tentatively reached by the negotiators and because of this objection the full membership of Local 38 did not ratify the agreement.

In an opinion on the decision that no contract existed, Paul A. Dodd, co-chairman of the commission, stated: "In making this determination the Shipbuilding Commission does not intend to lend encouragement to a disregard of agreements which, in good faith, have been laboriously worked out upon a tentative basis between an employer and a union. To the contrary, this agency of the WLB wishes to give every encouragement to negotiations between the parties, and to a solemn respect and fulfillment of the terms of an agreement by both parties--once such an agreement has been executed."

Dodd said that agreements reached with the thought in mind of disregarding or throwing out any of its terms would be destructive of "mutual confidence and morale" and "disturbing to the nation's war effort."

In a concurring opinion on the decision, the industry members of the commission stated that their vote with the majority was based on their conviction that the evidence presented was insufficient to support a finding that the union negotiators believed that initialing of clauses of the agreement was binding upon the local.

Industry members held that "the union was guilty of a serious breach of good faith in refusing to execute a contract containing the terms and provisions which had mutually been agreed upon by the negotiators for the union and the company."

### ORDER MODIFIED IN HUGHES TOOL CASE

Washington -- Authority to direct a company to cease recognizing and bargaining with a minority union when another union has been certified as sole collective bargaining agent for its employees is not within the jurisdiction of the WLB, the board has ruled in unanimously modifying an order of the Eighth Regional WLB in Dallas, Texas.

The Dallas board had directed the Hughes Tool Co., of Houston, Texas, to cease and desist from recognizing and meeting with the president and committee of the Independent Metal Workers Union.

The USWA-CIO is exclusive bargaining agent for the workers in the plant, and has instituted proceedings before the NLRB to restrain the company from checking-off the dues of members of the minority union.

The board sustained the Dallas board in denying the demand of the Steelworkers that the WLB order the company to cease honoring check-off of dues of the minority union. In an opinion on the WLB's order, Lloyd K. Garrison, public member of the board, stated with respect to this issue:

"The regional board's action is sustained by the national board on the sole ground that the question is properly within the jurisdiction of the NLRB. The regional board panel, in recommending that the regional board should not interfere with the check-off arrangements, reached the view that the company's action was permissible under the National Labor Relations Act."

Garrison asserted that this finding should not have been made by the panel since it was a question for determination by the NLRB.

If the regional board intended to approve the panel's finding, Garrison said, the board could not sustain it.

"We construe the regional board's order, however," said the opinion, "as simply declining to take action without attempting to pass upon the merits."

The portion of the regional board order directing the company to stop meeting with officials of the minority union for the purpose of settling grievances, was improper, said Garrison, and must be set aside by the national board.

In making its decision, the WLB acted upon petitions for review of the regional board's order filed by the two unions and by the company.

The board, with industry members dissenting, denied the company's appeal from a grant of maintenance of union membership awarded the Steelworkers' union.

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### AUSTRALIAN WORKERS TO CHANGE JOBS

Half of Australia's working population will have to change jobs after the war, according to the Australian News Agency.

### EXEMPTION OF SMALL LUMBER DEALERS REMOVED

Washington -- Retail lumber dealers in 22 western and mid-western states employing fewer than eight employees are no longer exempted from the application of the national wage stabilization program, WLB announced.

The board also announced it had denied the petition of the National Retail Lumber Dealers Association, representing 1,560 owners and operators of chain lumber yards in these states, for inclusion under WLB General Order #4, which exempts companies employing not more than eight workers from WLB jurisdiction. These operators maintain chains of lumber yards which employ more than eight workers, although individual establishments employ fewer than eight workers.

The companies based their petition on the plea that they were placed in an unfavorable position in relation to the independent yard operators as far as hiring and retaining personnel is concerned since the independents were not subject to WLB jurisdiction.

The board, in removing the independent small dealers from the exemption hitherto applicable under WLB General Order #4, removed this inequitable relationship between the independents and the multiple-ownership yards.

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## Selective Service

### HERSHEY CALLS FOR UNIVERSAL MILITARY TRAINING

Philadelphia -- This nation must choose between remaining at all times at a military strength consistent with its size, or be plunged unprepared once every twenty years into war, Major General Lewis B. Hershey, Selective Service Director, told the Rotary Club here.

"No one can claim that war can be avoided by preparation," he said. "It is time to understand that war is not avoided by lack of preparation. We shall win this war. This time we must not, dare not, go through the national throwing down of arms we passed through at the close of World War One. Soon America must think through her course, decide what is reasonable national life insurance as represented by armed forces. She must decide how these forces are to be maintained. If she is wise the responsibilities of national preservation by arms will not remain the task of the few in peace and the many in war.

"If every citizen must bear arms in an emergency, he has a right to be trained, conditioned, and prepared for that obligation during the years he bears the brunt of that heavy responsibility. Any reasonable and effective national system must include a system of universal military training combined with an adequate system for the handling in the reserves of those who have completed their period of active training."

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### HOME FOR INDONESIAN SEAMEN

San Francisco -- A home for Indonesian seamen has been opened, for recreational and overnight use by Netherlands sailors from the Dutch islands, the Netherlands News Agency announces.

## The Battlefronts

### SIXTY BECOME ACES WITH UAW-CIO CORSAIRS

Washington -- "Fly a union-built plane and become an ace!" That, in substance, is what Marine aviators in the South Pacific are saying when they refer to the UAW-CIO-built CORSAIRS, according to the Navy Department. More than 60 Marine aviators using the Vought CORSAIRS have shot down five or more enemy aircraft each to earn the title of "ace", according to latest reports from the South Pacific battle zones.

The CORSAIRS, which went into action for the first time in February, 1943, are built by UAW-CIO workers at the Stratford, Conn., plant of the Chance Vought Division of the United Aircraft Corp. These 2,000-horsepower, gull-winged CORSAIRS are used on the offensive. Most of the time they are searching out and meeting the enemy in his own territory, and the Marine flyers have found they hold a qualitative superiority over the Jap Zero and other enemy planes, the Navy reports.

The introduction of the CORSAIR into the fighting in the Pacific had a part in this change as its range, speed, maneuverability and firepower made it possible to send the fighter planes on long over-the-water flights to blast the Japs from the sky.

Maj. Gregory L. "Pappy" Boyington of Okanogan, Wash., now missing in action, tied the record of Maj. Joe Foss of Sioux Falls, S.D., by shooting down 26 planes. Maj. Boyington was Commanding Officer of the Black Sheep squadron, which shot down 112 Japanese planes.

Close behind Maj. Boyington in confirmed victories, with 25, and now also missing in action was Lt. Robert M. Hanson of Newtonville, Mass.

Capt. (then 1st Lt.) Kenneth A. Walsh, Washington, D. C., also a winner of the Medal of Honor, was a member of the first squadron to go into action with the CORSAIRS and he had 20 victories to his credit when his squadron was relieved.

Among other leaders in Marine aviation to date, grouped by the number of planes downed, are:

16½ - Capt. Wilbur J. Thomas, El Dorado, Kan.

14 - Capt. James E. Swett, San Mateo, Calif.

13 - Capt. James N. Cupp, Fairfield, Iowa; Capt. William P. Marontate, Seattle, Wash.; and Capt. Edward O. Shaw, Route 4, Spokane, Wash.

12 - Lt. Col. John F. Dobbin, Brighton, Mass.

11½ - Capt. Kenneth D. Frazier, Florence, N. J.

10 - Capt. Jack E. Conger, Des Moines, Iowa; Capt. Eugene A. Trowbridge, St. Paul, Minn.; and Capt. Harold E. Seagal, New York, N. Y.

8½ - Capt. John L. Morgan, Jr. Arlington, Texas.

8 - Capt. George Hollowell, Kansas City, Kan.; 2nd Lt. Alvin Jensen, Washington, D.C.; Capt. Gregory K. Loesch, Montrose, Calif.; Maj. Nathan T. Post, Jr., San Francisco, Calif.; and Capt. Donald N. Aldrich, Chicago, Ill.

7 - Capt. William E. Crowe, Austin, Texas; Capt. Roger A. Haberman, Ellsworth, Wis.; and Maj. J. Hunter Reinburg, Los Angeles, Calif.

6 - Maj. Robert G. Owens, Jr. Greenville, S.C.; 1st Lt. Eugene Dillow, Chicago, Ill.; 1st Lt. Sheldon O. Hall, Rte. 1, Ottumwa, Iowa; 1st Lt. Milton Vedder, Los Angeles, Calif.; and 1st Lt. Roger W. Conant, Marinette, Wis.

Some of those with not less than five victories are: Maj. Gregory J. Weissenberger, LaCrosse, Wis.; 1st Lt. Charles Kendrick, San Francisco, Calif.; Maj. Charles M. Kunz, Springfield, Mo.; Capt. Howard Finn, Mojave, Calif.; Capt. Stanley Synar, Rte. 1, Warner, Okla.; Capt. Hartwell V. Scarborough, Aulander, N.C.; Capt. Albert E. Hacking, Pawtucket, R.I.; Capt. William N. Snider, Vicksburg, Miss.; 1st Lt. Jack Pittman, Amarillo, Texas; 1st Lt. Frank C. Drury, Laguna Beach, Calif.; 1st Lt. Ernest A. Powell, Memphis, Tenn.; Lt. G. E. Dawkins, San Diego, Calif.; Capt. Herbert H. Long, Miami, Fla.; and Maj. Arthur Warner, Maplewood, N.J.

### "RUSH ORDER" GUNS SEE ACTION

Washington -- The workers at ten war plants have been told by the Navy Department that guns they built saw action in the Marshall Islands and sank an entire Jap convoy in their first brush with the enemy. The guns, according to the Navy, provided the firepower for the destroyer, USS BURNS.

The BURNS was built by workers at the Charleston Navy Yard and was launched last May. Sent to rescue a Navy flier who had been shot down, the destroyer picked up the aviator and, returning to the carrier task force, encountered an enemy tanker, medium cargo vessel and two smaller craft. It sank all four ships.

The guns were milled and forged on a Navy rush order. They were completed ahead of schedule by union workers at the Midvale Corp., Philadelphia, Pa., (United Steel Workers of America, CIO, and AFL Federal Labor Union); Bethlehem Steel Co., Bethlehem, Pa., (United Steel Workers of America, CIO); Crucible Steel Co., Harrison, N. J., (United Steel Workers of America, CIO); Erie Forge Co., Erie, Pa., (Pattern Makers League of North America, AFL, and United Steel Workers of America, CIO); the Heppenstall Co., Pittsburgh, Pa., (United Steel Workers of America, CIO); General Machinery Ordnance Corp., Naval Ordnance Plant, South Charleston, W. Va., (International Association of Machinists, AFL); and Naval Ordnance Plant, Canton, Ohio, (United Steel Workers of America, CIO); and workers at Northern Ordnance Corp., Fridley, Minn., and National Forge and Ordnance Co., Irvine, Pa.,

### 200,000 TROOPS RETURNED TO U.S.

Washington -- More than 200,000 troops, exclusive of sick and wounded, have been sent back to the United States from overseas areas since the beginning of the war, the War Department reports.

## UNION-MADE EQUIPMENT WINS SEABEE'S PRAISE

Washington -- High praise for equipment turned out by union workers has been sounded by Seabee H. J. Hulstrom, USNR, Machinist Mate 1/c, of Chico, Calif., veteran of the African invasion, wearer of the Purple Heart, and former member of the International Union of Operating Engineers (AFL). He was a bulldozer and shovel operator in civilian life.

Hulstrom was gun pointer and gun captain of one of the twin 40mm gun mounts aboard an LST in the convoy which entered Bizerte. He said the equipment taken along worked fine and "gave us very little trouble considering the beating we gave it." He said the German and Italian stuff looked rugged but every time it was pushed very hard it had to be overhauled.

"This is a new kind of war," Hulstrom said. "You can't win it with just guns and ships and planes. It takes bulldozers, trucks, cats, cranes, shovels, and all kinds of heavy stuff that doesn't look like it could fight. This war takes the kind of rugged stuff that union men and women know how to make."

Hulstrom was wounded by four pieces of bomb fragments during an air raid by the Germans, but despite his wounds, he took his post at his anti-aircraft guns and fired away at the raiders until they withdrew from the area.

Hulstrom urged that production of equipment for the Navy be increased by the workers at home.

"The Seabees are the 'can do' boys," he said. "We do a lot of working and a little shooting. We're like the folks in the factories, only we do our work a little closer to the actual fighting. We can see what they need up there next to the front lines. And they need everything the workers can give them."

Hulstrom's wife enlisted in the Army Nurses Corps when he joined the Seabees. Prior to joing the Navy he had served three years in the Army, a year in the Marine Corps, and about three years in the California National Guard.

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## USE OF V-MAIL IS URGED

Washington -- Space amounting to nearly 5 million cargo pounds has been released since June 1942 by the nearly 200 million letters to soldiers overseas that went as V-Mail, the Army and Navy Post Offices announced. This was enough to transport 496,428 Garand rifles, or 1,323,809 units of blood plasma, or 2,298,280, units of K rations, or 62,209,392 rounds of 30-caliber cartridges, or 5,791,666 dozens of surgical dressings. The space was also sufficient to transport 32,876 men or two divisions.

V-Mail saves 98 per cent in cargo space. Each V-Mail letter is photographed and reduced on film to thumb-nail size. One roll of film weighing about sever ounces holds about 1,800 letters. It is the only personal mail always flown to its destination. When V-Mail is used, two transport planes can do the work of 100 similar planes carrying the same number of standard and airmail letters.

## IMPORTANCE OF TRACTORS IN PACIFIC CITED

Washington -- "There is a substitue for almost every other item in the 'machinery of war'--but not for the heavy tractor," according to Lieutenant (jg) O. C. Sherwood, USNR, of Houston, Texas, who is member of a Seabee battalion attached to Marine engineers.

Lieutenant Sherwood participated in the Guadalcanal and Bougainville actions.

In an interview, Sherwood stressed the importance of the big tractors in landing operations, how they use their winches or hoists to pull trucks and jeeps out of the mud and sand; how they speed up the unloading of ammunition and food supplies and drag big equipment trailers off landing boats.

"As the beachhead is extended the tractors are still going," he said. "Put a blade on the front and you've got a bulldozer for clearing trails, knocking down trees and smoothing the ground."

To further illustrate the importance of the part played by the workers making the big tractors, Lieutenant Sherwood said that throughout a campaign the tractors will be found dragging carry-alls with their loads of gravel for roads, track-trailers with supplies to the front lines, digging ditches and clearing brush.

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## Labor Comes Through

### CIO, AFL BEHIND RED CROSS DRIVE

Washington -- Both CIO and AFL are putting themselves solidly behind this year's $200,000,000 campaign of the American Red Cross. Labor League for Human Rights, official relief arm of AFL, in a statement issued from its office in New York, says the federation has mobilized its 850 central bodies and the more than 35,000 local unions "for an all-out appeal to trade unionists during the Red Cross drive next month," and continues:

"Under the direction of the 25 regional officers of the league, the actual mechanics for this gigantic drive are now being set in motion. Literature--a leaflet and poster--is being prepared for distribution. Educational campaigns to acquaint union members with the varied services of the Red Cross and the scope of its activities have been planned, and are already under way in some communities."

The statement of the National CIO War Relief Committee, also in New York, says in part:

"CIO--with a record of $7,000,000 in past contributions to the Red Cross--aims at securing from its membership not only financial support for the March, '44 drive, but also increased participation in year-round Red Cross activities.

"CIO campaign cooperation will stem from a national CIO-Red Cross director through the 24 National CIO War Relief Committee area offices, labor representation in the city-wide Industrial Divisions of local Red Cross organization, and, in the shops, labor-management committees and shop stewards."

X-2262

Labor-Management Return to Robman

WAR PRODUCTION DRIVE WPB-1691

For Immediate Release
Wednesday, August 12, 1942

Robert Shannon, President of the RCA Manufacturing Company, Inc., today presented to William L. Batt, Vice Chairman of the War Production Board, a book containing names of more than 20,000 employees who have pledged themselves to "beat the promise" on war production.

With Mr. Shannon were F. R. Deakins, Vice President of the RCA; George W. Breunig, suggestion supervisor; and Miss Ann Stankus, a Harrison, N. J. RCA plant employee, who was recently given the Award for Individual Production Merit by the labor-management committee in the plant.

In connection with the War Production Drive in the five RCA plants, a "Let's Go to Batt, for MacArthur" suggestion contest was held. It was inaugurated during a visit of Mr. Batt to the Camden plant on April 7, the day the last phonograph radio rolled off the assembly lines and the plant was put on a complete war basis.

Miss Stankus' suggestion was to change a plate in small radio tubes, thereby reducing shrinkage to the extent that less skilled operators are now able to produce better tubes. Her suggestion resulted in an increased output and improved quality of tubes for war use.

For her suggestion she received a $100 cash prize and a furlough to Virginia Beach. Because she was too busy on war production, she gave up the Virginia Beach trip and was given its equivalent in cash.

Miss Stankus is 29 years old and lives at 326 Johns Street, East Newark, N. J. She is a graduate of the Harrison, N. J., High School.

MVR

air craft

# WAR PLANT DEVICE WINS WOMAN HONOR

## Coast Housewife Arrives to Be Guest of Industrial Congress Tomorrow

## EXPLAINS HER INVENTION

### It Saves 18,000 Man-Hours a Year in Plane Factory in the West, She Says

give p
mrs tea
to take
off on card

Ten months ago Mrs. Isabel Daniel was a housewife in Los Angeles. Today she is in New York City on a week's factory "furlough."

The only woman to win an A award for a mechanical improvement at the Douglas Aircraft plant in Santa Monica, she is one of fifteen men and women who will be honored tomorrow at a luncheon of the Congress of American War Industry to be held at the Waldorf-Astoria under the auspices of the National Association of Manufacturers.

Married twenty-two years, Mrs. Daniel had nothing to do with factories until ten months ago when she felt that she had to keep busy while her husband was away. He is a chief petty officer stationed at a submarine base in New Hampshire.

She was the first woman hired as a precision inspector at Douglas. Then she became an inspector of tubings. It was here that she put to good use here analytical training developer when she taught school in Oklahoma City before her marriage.

Her invention wil save at least 18,000 man-hours a year in the one plant, she estimated, and in figures no less than $75,000 a year.

**Here With Her Family**

"It's a small thing, but it means a lot," she said yesterday at the Algonquin where she is staying with her eighteen-year-old daughter, Elizabeth, and her husband, Robert N. Daniel, who has joined her here for a week.

She went into an explanation of the invention. "A tube is a line—we call it a pipe—made out of aluminum," she began. "Tubes are banded for different purposes. An oxygen line has a green band. A hydraulic line has a blue-yellow-blue. There are fifty combinations of color.

"The tubes have to be lacquered, as well as banded, to be weatherproof. [illegible] were lacquered by hand. [illegible] invention [illegible] the tube [illegible] machine [illegible] it is being [illegible] all in one operation."

**Feat Earns a Promotion**

Mrs. Daniel is no longer an inspector of tubings. She has been promoted. She is now on project sketches, a special assignment, where she checks over small drawings that are re-works of parts of planes.

This is [illegible]r first trip to New York. She visited here twenty years ago on one of the various trips taken with her husband. As a Navy man, he has had to live in Alaska, Oregon and Washington. Mrs. Daniel has had a chance to see a good bit of the continent since her birth on a Kansas farm.

Her daughter, a student at Los Angeles City College, sings professionally, hopes to appear on Major Bowes program tonight.

Does Mrs. Daniel want to remain in war industry after the war? "I want to write," she confessed. She is trying to get on the staff of the Douglas publication.

N.Y. Times
Dec 8
194

# 58 WORKERS WIN PRODUCTION HONOR

## WPB Rewards Group, Two of Them Women, for Suggestions to Assist Arms Output

## 16 WILL GET CERTIFICATES

## Letters Are Urged for 42—Devices and Processes Save Time and Material

Special to THE NEW YORK TIMES.

WASHINGTON, Dec. 7—Selection of fifty-eight more workers, two of them women, to receive recognition for suggestions which help war production were announced tonight by the board for individual awards of the War Production Board.

This is the fourth group of workers to receive such recognition. Of the fifty-eight, sixteen were recommended for Certificates of Individual Production Merit and to forty-two were accorded letters of honorable mention.

War Production Drive Headquarters, in notifying the labor-management committee which submitted the suggestions chosen for honors, suggested that plant recognition be given to those workers.

Workers previously receiving certificates or honorable mention include thirty-three in September and fifty-one in October. These honors are given to workers whose suggestions have been tested in war plants and found worthy of submission to War Production Drive headquarters by joint labor-management committees in the plants.

The individual awards plan provides for several types of recognition for workers whose suggestions increase the quantity or improve the quality of war production. Plant labor-management committees, of which there are at present about 1,800, representing nearly 3,500,000 workers, confer local awards of individual production merit for suggestions considered meritorious in their own plants. They then submit to headquarters suggestions which may be used on an industry-wide basis.

These suggestions are evaluated in the awards branch of War Production Drive headquarters before coming before the board for individual awards. This board, composed of technical experts, recommends letters of honorable mention, Certificates of Individual Production Merit or Citations of Individual Production Merit.

The citation is given only to those workers whose suggestions make "an outstanding contribution to the entire war effort."

Workers from New York, New Jersey and Connecticut receiving awards with a brief description of the suggestions are as follows:

### CERTIFICATES OF INDIVIDUAL PRODUCTION MERIT

### Connecticut

Louis Takacs, worker in the tool room of Auto-Ordnance Corporation, at Bridgeport, 21, designed a simple gash cutter which performs two milling operations at once. His device, the patent for which is being turned over to the government, saves almost 5,000 man-hours a year.

ohn Guerra, an operator at Winchester Repeating Arms Company of New Haven, developed a device to eject loose shells automatically on the reducing press dial. His device enables one operator to take care of two machines instead of one, saves a great many rejects, prevents damage to the machine and increases production.

### New Jersey

homas H. Shelling of the Harrison plant of the Radio Corporation of America Manufacturing Company, Inc., contributed two suggestions, both valued in tube production. They save 7,450 man-hours per year on quantity production. In one uggestion he changed the plate deign of a power tube and substiuted nickel to save material; in he other he changed a design enbling the plant to increase production from 23 to 47 per operatorour.

nes G. McKelvie, an expert on lass stem technique at the Harrin plant of RCA, set up a salvage roup and developed the necessary covery processes for salvaging erial leads, thereby saving more an $35,000 worth of critical tungen per year.

nk E. Giessen, also of the RCA ant at Harrison, turned in four ggestions, the total savings from hich amount to more than 12,000 an-hours per year on quantity odutcion. He made his suggestions substituted nickel strip for solid nickel tubing, and reduced the cost from $22 to $2.50 per thousand.

Charles I. Elliott a packing engineer at the Harrison plant of RCA, suggested changes in the packing and handling of tubes which save 8,840 hours of labor per year. They also conserve materials and needed warehouse space.

Leon Morrell, ceramics foreman at the Harrison plant of RCA, received honorable mention for two suggestions that together save more than 5,000 man-hours per year. He first suggested elimination of a final check on ceramics which was not necessary after previous tests had been made. His second idea was to standardize the size of feed gears used on all types of ceramic firing feeders, so that one attendant was able to service three furnaces instead of two.

Andrew Bau, supervisor of power tube testing at the RCA plant in Harrison, designed a test set to check for peak emission on a tube under dynamic instead of static conditions. It is now possible to test 120 rather than 20 per operator hours.

C. F. Bartlam of the purchasing department at the Harrison plant *of* RCA made two winning suggestions. He first suggested that manufacture of a seamless tubing part be tranferred to an outside jobber and that the material used in its production be brass instead of copper. This idea saved $21,000 worth of material. He then suggested that manufacture of the radiator for a special tube be standardized to brass instead of copper, thereby saving $13,200 worth of material.

L. J. Cronin, long-time employe of the RCA plant at Harrison, developed a technique and recovery process to salvage anodes on special power type tubes. This makes it possible to salvage 40 per cent of shrinkage tube anodes, which were previously discarded for scrap copper.

Allen A. Reed, 44-year-old set up man at American Type Founders, Inc., Elizabeth, devised a new procedure for ifnishing the concave surface inside of the 57 millimeter breech block. This increases production by 500 per cent. Mr. Reed has been a general machinist and metal pattern maker.

A. S. Fish, member of the purchasing department of the RCA plant at Harrison, suggested a change in the design of a radiator and transfer of its manufacture to an outside jobber. His idea reduced the cost of this item and saved a substantial amount of labor.

Charles W. Hear, employe of the RCA plant at Harrison, suggested retiming of a gas dosing valve on a tube operation. It increases the amount of tubes obtained from each bottle of gas from 1,250 to 2,800. This save 275 hours of direct labor and more than $8,000 worth of material in a year.

### New York

R. F. Schepis, plaster modeler at Republic Aviation Corporation in Farmingdale, developed a new mixture for making compound molds used in casting drop hammer dies. Because of this, it is now possible to make complicated forms needed in airplane work which were formerly virtually impossible to make.

Philip Fischer, also of the Republican Corporation, suggested a gauge which checks the operation of transfer valves used in shock absorber landing gear struts. This gauge prevents damage [illegible] and injury to workmen which could sometimes occur when the valves were not properly tested.

in the field of radio filaments and coils.

### New York

Fred Knoll of the Republic Aviation Corporation at Farmingdale, L. I., devised a new method for the adjustment of switches in an airplane which has reduced the time necessary for the operation by 82-fold. The former method required seven man-hours and three men to do the job in the plane. Mr. Knoll adapted an alarm-clock principle which enables the same job to be done in the shop by one man in eight minutes.

John Owen Gummoe, a machine operator at International Business Machines Corps, Endicott, suggested the use of parallel blocks instead of a fixture in a grinding operation on the receiver body of the 20 mm. gun. His idea increased output from 30 to 80 pieces and reduced the time for setting up the job by at least one-third.

Frank Le Voci, a tool-room foreman at Aero Spark Plug Company, Inc., New York, designed a magnetically operated automatic gap-setter for aircraft spark plugs. His device replaces a hand job which took several months to learn and resulted at best in the output of only 200 or 300 correctly gapped spark plugs every day. With his new development. beginners can learn to do the operation immediately and turn out 800 per day with no rejects. Mr. Le Voci is credited with have removed a major bottle-neck at his plant as well as increasing production.

## LETTER OF HONORABLE MENTION

### Connecticut

Allyn Broggi and Ralph Dellacamer, employes of Winchester Repeating Arms Company at New Haven developed a method of overcoming trouble caused by dies pulling out of die plates, getting under punches and causing breakdowns of presses used for making parts of airplane motors. Their new method saves an estimated twenty-five tool smash-ups per year and will be in use on eleven such machines by Jan. 1, saving over $9,000 per year on repairs and new tools.

### New Jersey

Thomas Flynn, a working group leader at the RCA plant in Harrison, suggested that worn-down electrodes of the same type be silver-soldered together to increase their life. Now a two years' supply of scrap inserts are being salvaged in the manner he suggested.

Miss Victoria Kocher of the RCA plant at Harrison worked out a new tool for inserting the plate to the bulb assembly on a special type of power tube. The new tube improves quality and shrinkage and reduces shorts and rejects. Miss Kocher was a mounter of power tubes for five years. The committee states that, as a result of her ability to instruct and simplify operations, she was transferred to the Work Simplification Department, where she spends her time in developing better methods of manufacturing.

Fred F. Rimmler of the purchasing department at the RCA plant in Harrison suggested a new set of tools for manufacturing the indexing lug for a certain tube type. He

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Thomas H. Shelling of the Harrison plant of the Radio Corporation of America Manufacturing Company, Inc., contributed two suggestions, both valued in tube production. They save 7,450 man-hours per year on quantity production. In one suggestion he changed the plate design of a power tube and substituted nickel to save material; in the other he changed a design enabling the plant to increase production from 23 to 47 per operator-hour.

James G. McKelvie, an expert on glass stem technique at the Harrison plant of RCA, set up a salvage group and developed the necessary recovery processes for salvaging aerial leads, thereby saving more than $35,000 worth of critical tungsten per year.

Frank E. Giessen, also of the RCA plant at Harrison, turned in four suggestions, the total savings from which amount to more than 12,000 man-hours per year on quantity produtcion. He made his suggestions

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substituted nickel strip for solid nickel tubing, and reduced the cost from $22 to $2.50 per thousand.

Charles I. Elliott a packing engineer at the Harrison plant of RCA, suggested changes in the packing and handling of tubes which saves 8,840 hours of labor per year. They also conserve materials and needed warehouse space.

Leon Morrell, ceramics foreman at the Harrison plant of RCA, received honorable mention for two suggestions that together save more than 5,000 man-hours per year. He first suggested elimination of a final check on ceramics which was not necessary after previous tests had been made. His second idea was to standardize the size of feed gears used on all types of ceramic firing feeders, so that one attendant was able to service three furnaces instead of two.

Andrew Bau, supervisor of power tube testing at the RCA plant in Harrison, designed a test set to check for peak emission on a tube under dynamic instead of static conditions. It is now possible to test 120 rather than 20 per operator hours.

C. F. Bartlam of the purchasing department at the Harrison plant *of* RCA made two winning suggestions. He first suggested that manufacture of a seamless tubing part be tranferred to an outside jobber and that the material used in its production be brass instead of copper. This idea saved $21,000 worth of material. He then suggested that manufacture of the radiator for a special tube be standardized to brass instead of copper, thereby saving $13,200 worth of material.

L. J. Cronin, long-time employe of the RCA plant at Harrison, developed a technique and recovery process to salvage anodes on special power type tubes. This makes it possible to salvage 40 per cent of shrinkage tube anodes, which were previously discarded for scrap copper.

Allen A. Reed, 44-year-old set up man at American Type Founders, Inc., Elizabeth, devised a new procedure for ifnishing the concave surface inside of the 57 millimeter breech block. This increases production by 500 per cent. Mr. Reed has been a general machinist and metal pattern maker.

A. S. Fish, member of the purchasing department of the RCA plant at Harrison, suggested a change in the design of a radiator and transfer of its manufacture to an outside jobber. His idea reduced the cost of this item and saved a substantial amount of labor.

Charles W. Hear, employe of the RCA plant at Harrison, suggested retiming of a gas dosing valve on a tube operation. It increases the amount of tubes obtained from each bottle of gas from 1,250 to 2,800. This save 275 hours of direct labor and more than $8,000 worth of material in a year.

### New York

R. F. Schepis, plaster modeler at Republic Aviation Corporation in Farmingdale, developed a new mixture for making compound molds used in casting drop hammer dies. Because of this, it is now possible to make complicated forms needed in airplane work which were formerly virtually impossible to make.

Philip Fischer, also of the Republican Corporation, suggested a gauge which checks the operation of transfer valves used in shock absorber landing gear struts. This gauge prevents damage [illegible] and injury to workmen [illegible] sometimes occur when the valves were not properly tested.

SUN, Chicago, Ill.
December 28, 1942.

# WOMEN PEP UP HOUSEKEEPING IN WAR FACTORY

Philadelphia, Dec. 27. -- Woman war plant workers are good plant housekeepers, making them one of the major factors in accident reduction.

"Women just naturally take pride in being neat and tidy at their work," Richard Erbrick, foreman of the fuse assembly line at Philco Corp., said as he surveyed his 160 woman workers who consistently have won the weekly plant award for orderliness.

The fuse assembly line women, only a small fraction of the thousands who have invaded Philco plants since the company began working on war orders, are making a large contribution to accident reduction through their habits of neatness and order, Erbrick said.

## WOMAN DESIGNS PART

Leona Green, 36, a tall, darkhaired woman whose agile fingers deftly drop tiny parts of a fuse into place, designed a rod to fit around the assembly bench to keep small parts from rolling onto the floor.

"It not only keeps the place clean and puts us ahead on that neatness award list," she said proudly; "it saves materials. We can't stop to pick up these little things. Anything on the floor gets stepped on, meaning it is just that much material that will never get to Berlin or Tokyo."

Leona's idea is doing its part to cut down hours lost through accidents which in 1941 the National Safety Council estimated would have supplied 200,000 soldiers with equipment, or built 9,000 bombers or 40,000 tanks.

## SPECIAL HOOKS INSTALLED.

Phyllis Long, neat as a button in brown slacks, whose eyes never left the delicate scales where she was weighing small parts for the fuses, originated the idea of special hooks on the underside of the work benches where the women hang their purses.

"A woman just can't work without having her pocketbook nearby," she said. "Seems like we can't carry things in our pockets, like the men. But a bunch of handbags all over the benches was bad. They slowed things down, too."

Erbrick, who admitted he "sometimes needles the girls a bit about neatness," setting the six divisions of the assembly line against each other in a kind of intradepartment contest, said he had never seen workers with such a passion for tidiness.

"When I see some litter on the floor," he said with a twinkle in his eye, "I just ask the girls how they would look on the living room carpet. That gets "em every time."

N.Y. Times, Jan. 1943

## GIRL WAR WORKER DEVISES SPEED-UP

### Increases Output 16 Times - Says 'Nothing Doing' to Rise

Newark, N.J., Jan. 18, 1943 - This is the story of the girl who believes that modesty is the best policy in the war.

A short time ago, 19-year old Anna M. Sofa, of this city was a waitress. After two months with the Frank L. Kaltman Company, Newark lens manufacturers she devised a method whereby she was able to increase her factory output sixteen times, but when her employer attempted to show his appreciation with a rise and bonus, her answer was "Nothing doing."

I'm getting enough as it is," said Miss Sofa, "and I really wouldn't feel right taking any more. Anyway, I want to do what I can for the war effort."

For this branch office of the Office of War Information her has dubbed her "the most modest war worker in New Jersey."

Miss Sofa, who works about eleven hours a day, four or five days a week, helps to make lenses for war instruments. Her job is to prepare the lenses for polishing, which she formerly did by placing warm pitch on each glass with a stick, one at a time. By this method she was able to finish about twenty-five up to noon each day. Having heard much talk about stepping up war production, she was not satisfied with her morning's output.

There must be some better way, she thought, and finally it came to her. She tried pouring the pitch into a button mold and then placing the lenses on each indentation. Result: Mass production! Mr. Kaltman, her boss, was overjoyed with the idea and wondered why no one had thought of it before. He and the girl tried it until they had perfected it in every way, with the result that Anne is now able to finish 400 molds every morning.

Officials of the War Production Board here think that Miss Sofa has done a fine job and feel that her fellow workers and war plant workers all over the country should know about it.

Tomes. New York, N.Y.
Feb. 3, 1943.

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## WAR WORK AWARDS GO TO 1,000 WOMEN

### Merit Pins and Chevrons for Service Given Volunteers of English-Spaeking Union

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For the hours they have contributed to war relief work since Pearl Harbor, 1,000 merit pins and service chevrons were awarded yesterday to volunteer workers of the English-Speaking Union of the United States, 30 Rockefeller Plaza.

Mrs. Franklin D. Roosevelt presented the one that went to Mrs. Charles Crane, wife of Lieut. Col. Crane of Fort Hamilton, Brooklyn. Mrs. Crane has made 419 garments since Pearl Harbor and has a work record of 8,500 hours.

Thirty-five women have worked more than 1,000 hours. One of them, Mrs. A. Rosenthall, is blind.

Mrs. Roosevelt, in addressing the audience, told of visiting the Union headquarters in England and praised the work its members were doing.

She said that although many American soldiers in Great Britain had a prejudice against the British because of what they learned from history books, it is disappearing as they enjoy the hospitality of the British people.

Peggy Wood, actress, read the list of voulnteer workers who received the merit pins and chevrons. Among them were Mrs. John Sloane, Mrs. George Whitney, Mrs. Langdon P. Marvin, Mrs. Samuel Seabury, Mrs. L. L. Stearns and Mrs. W. Henry France.

American Machinist
Feb. 4, 1943.

Mrs. Bonny Smith Lewis, 21-year old war worker at RCA Manufacturing Company's plant in Indianapolis, had an idea. . . an idea for increasing her company's production of a certain plastic part for military telephone equipment.

The flashing left on this part by the molding process was being removed by hand scraping. Mrs. Lewis' idea was that it could be removed much faster with a wire brushing wheel. The company tried her idea and adopted it.

When the War Production Board conferred awards upon workers whose ideas for improving quality or quantity of war production had proved most valuable they selected 16 men and one woman for top honors. The woman was Mrs. Bonny Smith Lewis. Her idea had saved 2925 man hours-- more than a year's work. In addition, the quality of the product was improved.

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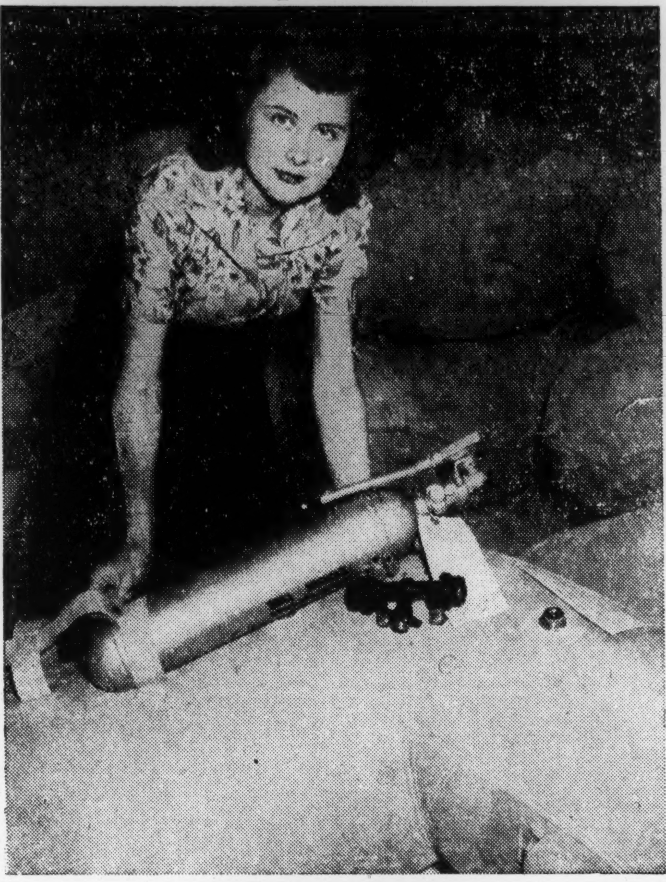
# *Much Depends on Her*



**Mrs. Mary Williams**

**For improving in the method of packing repair kits on rubber boats for fighting aircraft, she was awarded the Goodyear Merit Award.**

# *Girl Worker in Rubber Plant Wins Individual Merit Award*

*Special to The Christian Science Monitor*

AKRON, Ohio—A girl who has toiled for nearly two years on what, at first glance, might seem an unimportant job in the face of so many bigger ones, was the recipient recently of the first award for individual production merit to be given to a woman by the Goodyear Aircraft Corporation.

She is Mrs. Mary Williams, wife of a young officer in the Army. Mary's job was the installing of repair kits on the collapsible rubber life rafts which have already saved many stranded airmen. She had to fit special rubber discs into the kits to give them shape and make them waterproof. Much rubber was used in the process.

One day Mary put her ingenuity to work. She decided a double fold at each corner would do the job, eliminate the discs, save time, and reduce the amount of rubber needed about 30 per cent. The Labor Management Committee at the aircraft plant heard of her idea, and recommended her for the individual production merit award.

Before entering war work, Mary was a cashier in a department store here.

# Coast Guard Lore Enriched By War Tasks

*By a Staff Correspondent of The Christian Science Monitor*

SAN FRANCISCO—"Join the Coast Guard and see the world" is a paradoxical and entirely ex-officio slogan which applies with verity to some of the men coming home from the Solomon Islands and other far places. The Coast Guard automatically joins the Navy in wartime, and its "surfmen" know much about landing small boats through breakers on inhospitable shores—such as Guadalcanal and Tulagi Islands.

Commander Dwight H. Dexter, who was in charge of the surf fleet that landed the first Marines at both those islands last fall, and who spent 90 days and nights under intermittent bombing and shell fire, has been assigned in charge of Coast Guard personnel in this district. He brings with him rich new lore for the heroic history of the Coast Guard.

"We usually land at dawn in operations like those at Guadalcanal and Tulagi," Commander Dexter says. "You have to see where you are going, in surf operations. This gives your enemy ashore a better sight of you, also."

The surfmen of the Coast Guard manned the spoon-bowed surf boats, the ramp boats with open bows, and the heavy landing barges which took the fighting Marines ashore for their epic battles with the entrenched Japanese. There were not enough of the Coast Guardsmen to man all the boats used in so great an operation. The Navy supplied the other boatmen.

The Coast Guards and their expendable craft, many of which are fashioned of plywood, stayed on with the Marines, for raiding and communications and supply work, after the main transport vessels had gone to other parts. They were under fire often. In his work on and among the islands Commander Dexter went through 118 bombing attacks and 60 shellings from shore batteries. At the end of 90 days he was hospitalized and sent to home shores. He weighed 43 pounds less than when he went into battle at Guadalcanal on Aug. 7.

Once on Guadalcanal the plantation building he had occupied as headquarters was blown up and set on fire by Japanese artillery.

DIVISION OF
PRESS INTELLIGENCE
1526-14th St., N. W.

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Times (Ind)
Detroit, Mich.

FEB 16 1943

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# SHE FOUND A SHORT-CUT

Through a "suggestion system" in the plants of Murray Corporation of America, pretty **GERALDINE HULLIER** disclosed that she had invented a tool for assembling washers on rivets. The washer is picked up from a flat surface in the thin tube and is released by the plunger. Time saving on Dzus fasteners is 80 per cent. Added feature: no more ruined finger nails.

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## A FEW WOMEN WHO HAVE RECEIVED AWARDS

Elizabeth Meister - with the help of the foreman at one of the New Jersey Westinghouse plants, rigged up a rubber tube which pours cold air into the worker's asbestos gloves. These workers used to get burnt on taking out headlamps from the annealing furnace in spite of asbestos gloves. Thanks to this nurse a better product is obtained for the airstream permits the use of temperatures 100 degrees higher than before.

Julia Hrebenak, another young Westinghouse worker operated a spectroscope machine which used pointed carbon rods. They had to be kept sharp and that required laborious filing. Miss Hrebenak asked, "Why couldn't we sharpen them with a pencil sharpener?" She was right.

Mary Gallegher - an office worker who has received 14 awards for saving materials in a 12 month period. Westinghouse Elec. & Mfg. Co. (Post-Gazette, Pittsburgh Pa., 8/21/42) She noted that when standard sized aluminum casting was fabricated into a reflector for a small lamp used on electric control apparatus much aluminum was thrown away. Devised a plan to furnish a slightly smaller casting closer to the size of the finished reflector.

Mary Kisner - (Chicago Tribune, 7/19/42) metal worker on intricate parts such as bomb for Cook Electrical Company. Has devised a speedier and more accurate process of making a device essential to the American effort.

Miss Dorothy Heckman -(Journal-Gazette, Ft. Wayne, Ind.) General Electrical Co. Was awarded a prize for imrpoving of winding machines that saved considerable material.

Mrs. Irma Wildman - maker of radio coils for Bryant Elec. Co., Bridgeport, Conn. Received War Production Board's merit award for individual achievement in improving production of essential war materials.

Miss Anna M. Sofa - Frank L. Kaltman Co., Newark lens manufacturers. Stepped up her production speed 16 times. She prepared lens for polishing by placing warm pitch on each glass with a stick. She tried pouring the pitch into a button mold and then placing the lenses on each indentation. Result: Mass production.

From THE CONSOLIDATED NEWS, Thursday, March 25, 1943.

## Feeder Shop Woman Wins Highest Prize for Production Idea

Because woman-like, she invented a device to thread electric wire into long thin conduits, Miss Quincy Smith, Dept. 905 - Laguna Beach Feeder Shop - last week became the first woman employee of Consolidated Vultee to win the top suggestion award. It was for $100 cash plus a $25 bond, highest amount yet paid to one of the fair sex.

Before her invention workers often had trouble inserting the wiring into the slender tubes and very pliable tubing. Now the threading operation takes only a few moments, is almost infallible.

A total of $625 was awarded to 30 workers, the Suggestion Committee announced. Six others were given honorable mention.

By curious contrast, all Miss Smith's training has been linguistic and scholastic. A native of Washington, D.C. and a descendant of John Quincy Adams, she studied at American University in Washington, and in Europe at France's famed Sorbonne, in Paris, and the University of Madrid, in Spain. She majored in French, Spanish and English literature, and history and geography.

From 1929 to 1932 she was manager of the Lybian Travel Service in Tunis, North Africa, and in 1932 located in Tripoli to operate a branch of that travel service. Next she turned her talents to photography, operating as a free lance photographer from 1934 to 1938 in Jerusalem.

She became assistant director of the American School and College in Damascus, Syria, remaining there through 1939 when she decided, in view of the coming of the war, to return to the United States. She located at Laguna Beach, bringing with her two adopted children, Barbara and Jean Stevens.

women

# ADVANCE RELEASE

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your copy

ADVANCE RELEASE: For Monday Afternoon Papers, March 29, 1943
Place - 76978

OFFICE OF WAR INFORMATION

War Production Board WPB-2954

Awards

One hundred and fifty-seven war workers from eighteen states, ranging from Massachusetts to California, including nine women, today were named by War Production Drive Headquarters as winners of national honors for suggestions that increase and improve production.

only 8 found with given name feminine

A group of industrial experts and engineers comprising the Drive's Board of Individual Awards, of which Ray Millholland, engineer and author of Indianapolis, Indiana, is chairman, awarded Certificates of Individual Production Merit to 53 production soldiers and Letters of Honorable Mention to 104 others.

Thousands of man-hours and many tons of critical materials are saved as the result of the 157 suggestions honored in March, representing the ideas of the largest group to be recognized for a single month.

Thirty-seven of these suggestions, which can be statistically measured, alone save 176,000 man-hours annually. Others will reduce the time to perform an operation, but cannot be accurately measured in man-hours. The list also includes suggestions which effect important savings of materials.

Only civilians whose production suggestions are certified to War Production Drive Headquarters in Washington by War Production Drive Labor-Management Committees in plants are eligible for these Federal awards. The highest honor, the Citation of Individual Production Merit, has been accorded to only seven workers in the whole United States. President Roosevelt presented the first gold emblems to six Citation winners at the White House last December, and the seventh was cited in February, 1943.

Both A.F. of L. and C.I.O. Unions participated in the work of plant committees which submitted the March awards. Labor-Management Committees with A.F. of L. representation contributed 53 suggestions, and joint committees with C.I.O. representation sent in 63 ideas. Altogether, 44 Labor-Management Committees share these latest honors.

"Blue shirt" workers dominate the awards with 112, as compared with less than half that number of awards going to professional employees, including engineers and laboratory technicians.

The ingenuity of nearly 4½ million workers in over 2,000 plants where Labor-Management Committees are functioning is being put to work as a result of the suggestion awards system. Ideas are first tested in the local plant for their practicability and value, and local honors are given according to their merits.

The best of these plant-tested ideas are then sent to Washington to be reviewed and evaluated by the Board for Individual Awards, whose 12 technical experts are drawn from a wide variety of industrial fields. Ideas which can be widely applied are then "plowed back" into all plants participating in the War Production Drive by technical bulletins, with the provision that any committee so desiring may obtain complete photostats, blueprints and other technical descriptions necessary to put the suggestion into effect.

(over)

The Board, since its organization last August, has granted honors to 232 suggestors up to today. Honors now issued total 389, of which 124 are Certificates of Individual Production Merit and 258 Letters of Honorable Mention, in addition to seven Citations of Individual Production Merit.

Fifty-three Awards of Certificates of Individual Production Merit were made for suggestions as follows:

Homer Ireland, Bethlehem Steel Company, Shipbuilding Division, San Francisco, California, two wedge clamps.

Wayne F. Rossiter, jig shop engineer, Marinship, Corp., Sausalito, California, a jig for slip-on pipe flanges.

Al Meuniet, machine shop worker, Richmond Shipyard No. 1, Permanente Metals Corp., Richmond, California, three devices used in machining and fitting parts in the propulsion of EC-2 Freighters.

Larry Viale, Richmond Shipyard No. 1, flanging rig.

Harry Neilsen, Richmond Shipyard No. 1, Permanente Metals Corp., Richmond, California, a jig for straightening hatch covers.

Lewis Fambry, Richmond Shipyards No. 1, Permanente Metals Corps., Richmond, California, a dual-purpose strongback.

Merrel Kern, tool grinder, Caterpillar Tractor Co., Peoria, Illinois, an adjustable drop center to be used on a #1½ or #2 Cincinnati Tool Grinder.

Esther Beck, stenographer, Illinois Central System in Chicago, a change in office procedure which directly increases the efficiency of railroad operations.

Eugene Albert Kruse, section chief, tool design department, Western Electric Company, Chicago, Illinois, cams for automatic screw machines for short-run jobs made of sheet phenolized canvas instead of steel and a fixture for cutting them.

J. E. Kiefer, machinist, Indiana Ordnance Works, E. I. du Pont du Nemours & Co., Charlestown, Indiana, a machine to fabricate extrusion pins used in smokeless powder finishing presses.

Ruth G. Craig, Ewart Plant, Link-Belt Co., Indianapolis, Indiana, suggested a combination of operations in the manufacturing of 20 MM shot.

C. E. Bryant, Beech Aircraft Corp., Wichita, Kansas, a revolutionary way of removing tack strips from major sub-assemblies of planes.

C. E. Hillman, Beech Aircraft Corp., Wichita, Kansas, a jig for setting propeller controls.

W. R. York, a jig to check the rear landing gear lift leg in airplanes, Beech Aircraft Corp., Wichita, Kansas.

L. L. Sublette, skin trimmer, Beech Aircraft Corp., Wichita, Kansas, a skin trimming device which replaces hand tools in removing plywood skin from aircraft during clean-up operations.

Earl Atherton, methods engineer, Coleman Lamp & Stove Co., Wichita, Kansas, (two suggestions) designing a special machine and a multiple jig.

Fred G. Stockert, toolmaker, Coleman Lamp & Stove Co., Wichita, Kansas, a method of shaving or facing, rotors on both sides at each stroke.

William H. Gibb, Jr., Fore River Yard, Bethlehem Steel Co., Shipbuilding Division at Quincy, Massachusetts, suggested that vertical ladder treads be spot welded instead of arc welded to sides in all Government ships.

Arthur J. Lavalle, toolmaker, Gilbert & Barker Manufacturing Co., West Springfield, Massachusetts, a new method for removing broken taps, studs, drills from aluminum and bronze castings.

David Cate, Submarine Signal Co., Boston, a punch die which cuts hinges to desired length.

Paul Misiuk, machine repair man, Packard Motor Car Company, Detroit, a fixture which checks the accuracy of machine spindles.

Arthur Grimmer, Packard, gang leader, a fixture which facilitates repair of porous castings where leakage occurs through stud and bolt holes.

Benjamin Fisher, gang leader, Packard, substitution of natural gas and compressed air for acetylene and oxygen in preheating aluminum prior to welding castings.

Micheal J. Vargitch job setter, Packard, a method of measuring a gear cutting hob to insure the correct pitch diameter on the gear without taking a trial cut.

Casper Bens, utility man, Packard, suggested that diamond instead of carboloy tools be used to bore cam shaft bearings.

Frank Hendricks, sheet metal worker, Packard, a fixture to crimp water jacket seams and replace the former method of hand hammering over a wooden block form.

Cecil W. Wilburn, jobsetter, Packard, a special stop on a milling machine.

William H. Graves, chief metallurgist, Packard, a method of insuring adequate tightening and maximum use of material for connecting rod bolts.

Albert Morley, Jr., toolmaker, Packard, an adjustable collar used on the shank of the tool post of an automatic chucking machine.

Harry E. Peters, foreman, Packard (two suggestions) a quick method of stopping large grinding wheels, and the use of a Ross Wheel dresser instead of diamonds in dressing those grinding wheels.

Martin J. Brenner, toolmaker, Packard (two suggestions) a fixture to simplify the testing of oil tubes and eliminate damage to the nut and ferrule connections, and an improved positive acting bushing driver.

Joseph Morrison, band saw operator, Yellow Truck & Coach Manufacturing Co., Pontiac, Michigan, fourteen band saw fixtures designed and in operation.

Raleigh Clair Ormerod, time and motion study engineer, Emerson Electric Manufacturing Co., St. Louis, suggested that Universal laminated rings be used on a magnetic chuck of a surface grinder.

Helen Worth, work simplification supervisor, Harrison, New Jersey, RCA Victor Division, Radio Corporation of America, rearranged the terminal board assembly for a high production tube.

Mary H. Davis, RCA Harrison work simplifier, (two suggestions) elimination of an unnecessary inner shield on a high production power tube, and a change in welding procedure of stop wires in certain tubes.

James Dougherty, Jr., Camden, New Jersey, RCA Victor Division, Radio Corp., of America, working group leader, a new tool to tighten loose contact points on switch wafers.

Frank Krulikowski, die setter, Westinghouse Electric & Manufacturing Co., Newark, New Jersey, adapted single action draw presses to do a job formerly done by a double action press which had broken down.

Adolph John Neef, production engineer, Emerson Radio & Phonograph Corp., New York City, suggested that a punch and die made of scrap tool steel be fitted to an old riveting machine.

William Genczi, Republic Aviation Corp., Farmingdale, Long Island, a portable drill jig which facilitates the drilling of accurately straight holes through thick material, via drill motor.

Joseph E. Emes, Republic, a gun mount post puller for pulling defective gun mount posts from completed wings.

Thomas Ford, Inland Manufacturing Division of General Motors Corp., Dayton, Ohio, elimination of the finishing cut on the facing operation of the pressure plate for tank clutches.

Emmett H. Cooper, supervisor, Globe-Wernicke Co., Cincinnati, elimination of the intermembering plate on all horizontal sectional filing equipment and the substitution of a simple drilled hole.

Charles H. Miller, control man, Goodyear Tire & Rubber Co., Akron, Ohio, an improvement in the construction of door frames for bullet seal fuel tanks used in many American planes.

Robert A. Nourse, Goodyear Tire & Rubber Co., Akron, a new cure control device for fabric used for rubber boats, life rafts, and pontoons.

Stanley H. Martin, Goodyear, a cut-off tool to remove stock in one piece instead of by drilling and boring.

David Sunstein & E. O. Thompson, engineers, Philco Corp., Philadelphia, redesigning the Wavemeter. Their design has been standardized by Signal Corps.

Louis Sidney Beneigh, machinist, Pullman-Standard Car Manufacturing Co., Butler, Pennsylvania, an improved inside diameter pin gauge for 155 MM forgings.

Walter C. Eck, production expediter, Milwaukee Works, International Harvester Co., suggested that certain parts on the 57 MM Gun Carriage be made from a forging instead of being machined from round stock.

Walter Ellingboe & William Knaebe, foremen, Milwaukee Works, International Harvester Co., suggested that forging dies be made to forge the lever trip on the 57 MM gun in one piece.

Fred Scheer & Ralph Baumgardt, Milwaukee Works, suggested that steel backed bronze bushings, instead of phosphorous bronze bushings, be used on the 57 MM Gun Carriage.

One hundred and four awards of Letters of Honorable Mention were made for suggestions, as follows:

Birney Cory, Bethlehem Steel Co., San Francisco, California, designed two chock devices for holding chocks used in the construction of cruisers and destroyers.

David Saunders, Bethlehem Steel Co., worked out specifications for the facing of chipping and caulking tools.

G. K. Kieffenbacher, Shipbuilding Division, Bethlehem Steel Co., San Francisc an improved gas welding tip which has proven of great benefit in shipyard work.

R. G. Meyers, loft rigger, Marinship Corp., Sausalito, California, developed a successful rigging procedure for setting manifolds in the engine room.

George J. Sanderson, Marinship Corp., burner instructor, a jig for burning wedges.

W. R. Brock, instructor, Marinship, designed a machine which will cut 150 sets of beveled nipples per shift.

H. J. Mersinger, Marinship, developed a guide holder for use on machine in welding operations.

Harry William Black, engineering department, Marinship Corp., Sausalito, California, a prefabrication method of insulating ammunition magazines.

Harold Wagner, Moore Dry Dock Co., Oakland, designed a one-tack saddle to replace an old two-leg saddle. Used in drawing down and squaring up reinforcing material on plates.

H. Newton, Moore Dry Dock, (three ideas) a wrench to tighten packing nuts, a boom position alarm switch, a new type of stuffing tube wrench.

R. S. Robinson, Moore Dry Dock, designed a punch to eliminate hand punching on cable tags.

Joe L. Patz, Moore Dry Dock, suggested a clip be used in place of a screw driver when hanging ducts.

Valentino Bangloi, Moore Dry Dock, suggested an apparatus to take the place o a large circular torch.

O. H. Ryan, Moore Dry Dock, designed an appliance to use on brake box covers.

William H. Deane, Moore Dry Dock, designed a multiple clamp.

Charles McPherson, Moore Dry Dock, suggested clamps to hold up light stringers, panels and feeder boxes to beams.

Harry Philip Becher, Jr., Northrop Aircraft, Inc., Hawthorne, California, designed and made a caliper for setting up the router in making router blocks.

Guy H. Morehouse, Richmond Shipyard No. 1 Permanente Metals Corp., Richmond, California, suggested a machine for marking plates for stagger welding.

A. H. Privett,, Permanente Metals Corp., Richmond Shipyard No. 1, devised an apparatus for the edge-burning of plates.

Luther T. Cloud, Richmond Shipyard No. 1 devised an adjustable scribing tool.

Harry H. Carney, Richmond Shipyard, made a bending jig to coil tubing used to form pigtails for steam gauges.

A. Sarrazan, Richmond, California, suggested a stern flanging rig used in flanging plates to the stern post casting on ships.

William A. Stocker, Richmond, California, designed a jack splint.

Mark McDonough & Jack Rudinow, Richmond Shipyard No. 1, figured out a burning machine guide to cut channel beams to needed lengths.

Fred Schmitt, tuberman, Bemis Brothers Bag Co., Peoria, Illinois, suggested that steel, instead of rubber rollers, be used to pull the intucks tight on a sewn multi-wall bag.

C. Sleister, Caterpillar Tractor Co., Peoria, Illinois, suggested a method for making master jaws on all Terromatic Grinder Chucks.

Delilah Brown, Perfect Circle Co., Richmond, Indiana, suggested that boxes in which rings are shipped overseas be dipped in wax so that salt air cannot penetrate causing rust.

E. Arnold, tool inspector, Perfect Circle Co., suggested improvements in preparation of rings for export shipping.

William L. John, trouble shooter, RCA Victor Plant, Bloomington, Indiana developed a chart which allows a tester to compute the regulation efficiency of the power supply.

K. E. Kirkpatrick, Beech Aircraft Corp., Wichita, designed four jigs to be used to aid in the installation of the nose door lock on aircraft.

A. O. Walcher, Beech Aircraft Corp., Kansas, developed a new spider for heat treating center sections.

C. W. Drennan, Beech Aircraft, Kansas, Crew chief in final assembly, perfected two tools..

W. O. B. Schmidt, Beech Aircraft Corp., Kansas, developed an improved way of storing templates.

O. W. Bristow, Beech Aircraft Corp., Wichita, Kansas, devised a portable drill jig to drill motor mounts on trusses.

J. H. Thomas, Beech Aircraft, designed a rudder balance bracket jib.

A. E. Atherton & W. O. Hale, Beech Aircraft Corp., responsible for the production and distribution of a book containing rough drawings of the more difficult brake operations.

W. M. Orsman, Beech Aircraft, designed shaper jigs to make four blocks which had previously been run on a planer.

Harry Drinnen, punch press operator, Coleman Lamp & Stove Co., Wichita, Kansas, suggested a new way of forming the frame channel for a ski stove.

Jack Ferris, Coleman, suggested various cams for an automatic screw machine used in the manufacture of sleeves.

Herman L. Burton, foreman, rotor department, Coleman Lamp & Stove Co., Wichita, Kansas, suggested a new method of sizing the outside diameter of rotors.

J. H. Smith, machinist-welder, Paducah Shops, Illinois Central Railroad, Kentucky, suggested salvaging of old oil from stoker engines for special purposes.

Edward W. Kleinpeter electrician, Ethyl Corp., & E. I. duPont deNemours Co., Inc. Baton Rouge, La., suggested the construction of a portable testing instrument to check extension cords, drop lights, and portable electric tools.

Tom James, Bethlehem-Fairfield Shipyard, Baltimore, Maryland, suggested that chocks be put on brow plates in yards before being brought to the ways.

William Gough, welder, Fore River Yard, Bethlehem Steel Shipbuilding Div. Quincy, Massachusetts, suggested an improved method of attaching a channel strongback to deck or bulkhead plating when strongbacking for assembly.

Alvin D. Conley, Fore River Yard, Bethlehem Steel Co., Shipbuilding Div. Quincy, suggested an improved design for an impact hand end welding machine for use on insulation quilting bolts.

Julius Boudreau, Fore River, suggested an improvement in the method of shaping the flanges on steel door frames.

Raymond R. Page, mechanic, Fore River, (Two suggestions), charts be used to classify standard size sheets in making bins for sheet metal, and a device for use on sheet metal punching machines.

Arthur J. Chella, Fore River, mechanic, suggested a jig for the assembly of ertical ladder stringers and treads preparatory to spot welding.

Charles Dumas, core maker, Packard Motor Car Co., Michigan, made a box to egregate and hold chills used in making cores.

Rowley Snyder, utility machinist, Packard, Michigan, suggested that form tools replace turning tools to simplify operations on certain drive shafts.

Jonas Woodcock, boring machine operator, Packard, developed an index chart.

Martha Carlson, inspector, Packard, suggested a simple and quick method of checking the extent of the stellite coating on exhaust valve seats.

Joseph Stopar, jobsetter, Packard, suggested that standard drills be replaced with an oil drill which will permit drilling and turning operations on engine bearing spacers to be done simultaneously.

John M. Clark, chief chemist, Aircraft Engine Division at Packard, developed a method of distinguishing between oil and coolant leaks on a liquid cooled aircraft engine.

Ralph Rem, machine operator, Packard, suggested a change in the methods of machining the supercharger clutch plate flange of the Rolls-Royce engine.

R. K. Dunning, machinist, Illinois Central shop, Vicksburg, Mississippi, suggested that shields be put over tires of a portable oil wagon to protect them from damage.

Sidney Graubard, Emerson Electric Manufacturing Co., St. Louis, Missouri, suggested that a masking solution be substituted for paper and tape to protect plane parts in a painting operation.

Frank D. Force, Jr., engine lathe set-up man, American Type Founders Inc., Elizabeth, New Jersey, designed a fixture for use in grinding and thread mill on parts for the 3" 23 Caliber Gun.

George Herbert Every-Clayton, methods engineer, Johnson & Johnson, New Burnswick, New Jersey, developed a gauze strip measuring rack.

M. D. & R. K. Harrison, special ratio board for testing transformers, RCA Victor Division, Radio Corporation of America , Camden, New Jersey.

R. D. Hughes & Charles Thial, RCA Camden, suggested an improved feed through bushing in by-pass filter capacitors.

William Goble, RCA Victor Division, Radio Corp., of America, Harrison, New Jersey, two suggestions on radio tube operations.

Peter Janis, engineer, RCA, Harrison, redesigned a tube.

Harold Lipschultz & Fay Stareski, RCA, Harrison, changed the welding operation on a cathode.

Harris B. Kort, RCA, Harrison, devised an electrical method of forming tungsten filament leads for a specific type of power tube.

Daniel Battstone, RCA, Harrison, suggested eldimination of unnecessary wing micas in certain magic eye receiving tubes.

George Van Wagoner, foreman, RCA, Harrison, (two suggestions) adapted a single row fixture to a double row for spraying filaments, and designed a new multiple welder.

Thomas H. Briggs, chief engineer, RCA Harrison, suggested change in the flashing operation on getters, which was formerly a hand operation.

Thomas H. Schelling, coordinator of work simplication in the power tube at RCA Harrison, an improved testing device for shorts in tube mounts.

Robert B. DeLong, process engineer, RCA Victor, Harrison, suggested an improved method of treating ingots.

R. A. Jacobus, engineer, RCA Victor, Harrison, suggested a change over from trolley to sealex exhaust on certain apecial purpose radio tubes.

Dorothy L. Sanderson, work simplifier, RCA, Harrison, developed a new mounting procedure for a high production metal tube.

John Wolff, group leader in instrument assembly, Westinghouse Electric & Manufacturing Co., Newark, suggested a change in design in electrical connections on relays and recorders.

Frank Mehle, tester, Westinghouse, Newark, suggested the elimination of a test operation in instrument inspection.

Albert Cantelmo, toolmaker, Westinghouse, Newark, redesigned a grooving tool used in an automatic screw machine working on studs for small instruments.

Robert D. Center, Niagara Falls Chemical Warfare Plant, E. I. duPont deNemours & Co., suggested a means of conserving steel plate.

Bryant H. Russell, inspector, International Business Machines Corp., Endicott, New York, suggested that studs for small cams be hot flow riveted instead of riveted on high speed hammers.

Salvadore S. Selle, International Business Machines Corp., recommended a brush on filler method instead of knife glazing for various castings on Naval Ordnance work.

G. W. Yoder, I. B. M., originated a tool to retop small nuts.

Pompeii Acquaviva, turret lathe operator, International Business Machines Corp Endicott, designed a radius scraper and burring tool.

William G. Leonard, I. B. M., lathe operator, Ordnance machinery department, suggested a combination turning tool which enables the operator to do two simultaneous operations on a lever for a gun.

Stanley Maas, Republic Aviation Corp., Farmingdale, Long Island, suggested a title block printed on adhesive coated cellophane which is quickly applied to the reverse side of tracing paper used in drafting.

Harold Glider, Sterling Engine Co., Buffalo, designed a combination screw driver and socket wrench.

Frank A. Sidari, supervisor, Globe Wernicke Co., Norwood, Ohio suggested rearrangement of operations on card index cabinets.

Virgil Somsel, Inland Manufacturing Division, General Motors Corp., Dayton, Ohio, suggested that a plating operation be eliminated in the production of ignition wire sleeves for aircraft engines.

Frank D. Gilmore, supervisor, Goodyear Tire & Rubber Co., Akron, Ohio, suggested improved installation of gauge protector rings in scout car fuel tanks.

Mary E. Brown, Goodyear Tire & Rubber Co., Akron, suggested a change in manufacturing tool kits used for repair of life rafts in actual service.

Alexander Thomson, Goodyear Tire & Rubber Co., Akron, suggested that a form be built at each end of irregular pieces of steel to be machined and that pattern makers' plaster be poured into this form.

Joseph A. Wiper & Robert M. Snyder, Goodyear Co., proposed the use of an electro-magnet to remove ferrous metal and foreign material from crumb stock on the dry dock conveyor in the synthetic plant.

C. E. Robinson, Goodyear, proposed that baffles for bullet-proof fuel tanks be bolted together in groups of ten for marking, cutting, buffing and cleaning instead of being done individually.

Herman E. Hewitt, Goodyear, devised a new method of cutting and building oar-lock risers for rubber life rafts.

Peter Voloshen, Reliance Electric & Engineering Co., Cleveland, suggested that a swageing tool instead of a hand file be used in smoothing off the ragged edges on rotors.

Charles Benedict, Westinghouse Electric & Manufacturing Co., Mansfield, Ohio, designed a new holding fixture for a part run on a turret lathe.

L. G. Bergstorm, Westinghouse, Mansfield, suggested a new manufacturing procedure for shafts for radio dials.

Robert J. Amrien, journeyman machinist, Willamette-Hyster Co., Portland, designed a clamp for standard use in the shop.

H. W. Southard, Apparatus Department, General Electric Co.; Erie, Pennsylvania suggested a change of layout for the cutting of expanded metal for doors and hoods on power plant units.

Nick Benos, Roaster Department, Garfield Plant, American Smelting & Refining Co., Salt Lake City, Utah, suggested that a hole be cut in the outer rim of the top hearth to relieve overloaded rabble arms caused by wet ore.

Anton Brzoskoski, Milwaukee Works, International Harvester Co., Wisconsin, suggested new drill bushings for a drill used on rings for the 57 MM gun.

| Company and Address | Unions | | AWARDS | |
|---|---|---|---|---|
| | | | Certificate | Honorable Mention |
| American Smelting & Refining Co.<br>Salt Lake City, Utah | Mine, Mill, Smelter Workers | (CIO) | | 1 |
| American Type Founders<br>Elizabeth, N. J. | Int'l.Assoc. of Machinists<br>Federal Labor Union | (AFL)<br>(AFL) | | 1 |
| Bechtel Co.<br>(Marineship Corp.)<br>Sausalito, Calif. | Int'l.Assoc. of Machinists<br>Int'l.B'hood Elec.Workers | (AFL)<br>(AFL) | 1 | 5 |
| Beech Aircraft Corp.<br>Wichita, Kan. | Int'l.Assoc.of Machinists<br>Aeronautical Workers | (AFL)<br>(AFL) | 4 | 9 |
| Bemis Bros. Bag Co.<br>Peoria, Ill. | Paper & Pulp | (AFL) | | 1 |
| Bethlehem-Fairfield Steel Corp.<br>Baltimore, Md. | Marine & Shipbuilding Workers | (CIO) | | 1 |
| Bethlehem Steel Corp.<br>San Francisco, Calif. | Metal Workers' Int'l Assoc. | (AFL) | 1 | 3 |
| Bethlehem Steel Corp.<br>Fore River Yard<br>Quincy, Mass. | Marine & Shipbuilding Workers | (CIO) | 1 | 5 |
| Caterpillar Tractor Co.<br>Peoria, Ill. | Farm Equipment Workers | (CIO) | 1 | 1 |
| Coleman Lamp & Stove Co.<br>Wichita, Kan. | Coleman Employees' Federation | (Ind) | 2 | 3 |
| E. I. du Pont de Nemours & Co.<br>Charlestown, Ind. | None | | 1 | |
| E. I. du Pont de Nemours & Co.<br>Niagara Falls, N. Y. | Niagara Plant Workers' Employee Representative Plan | (Ind) | | 1 |
| E. I. du Pont de Nemours & Co.<br>Baton Rouge, La. | None | | | 1 |
| Emerson Electric Mfg. Co.<br>St. Louis, Mo. | Electrical Radio & Machine Workers | (CIO) | 1 | 1 |
| Emerson Radio & Phonograph Corp.<br>New York, N.Y. | Electrical Radio & Machine Workers<br>Emerson Employees Assoc. | (CIO)<br>(Ind) | 1 | |
| General Electric Corp.<br>Erie, Pa. | Electrical Radio & Machine Workers | (CIO) | | 1 |

| Company and Address | Unions | AWARDS<br>Certificate | <br>Honorable Mention |
|---|---|---|---|
| General Motors Corp.<br>Inland Mfg. Division<br>Dayton, Ohio | United Auto Workers<br>United Rubber Workers (CIO)<br>Electrical, Radio & Machine Workers | 1 | 1 |
| Gilbert & Barker Mfg. Co.<br>West Springfield, Mass. | None | 1 | |
| Globe Wernicks Co.<br>Cincinnati, Ohio | United Auto Workers (AFL) | 1 | 1 |
| Goodyear Tire & Rubber Co.<br>Akron, Ohio | United Rubber Workers (CIO) | 3 | 7 |
| Illinois Central System<br>Chicago, Ill. | Int'l.Assoc. of Machinists<br>Bro. R.R. Signalmen<br>Order R.R. Telegraphers<br>Bro. Maintenance of Way Emp. (AFL)<br>Bro. Locomotive Engineers<br>Bro. Railway & Steam Clerks<br>Freight Handlers & Sta. Employees | 1 | 2 |
| International Harvester Co.<br>(Milwaukee Works)<br>Milwaukee, Wisc. | Federal Labor Union (AFL)<br>Patternmakers (AFL) | 5 | 1 |
| International Business Machines Corp.<br>Endicott, N.Y. | None | | 5 |
| Johnson & Johnson<br>New Brunswick, N. J. | None | | 1 |
| Link-Belt Co.<br>Indianapolis, Ind. | United Steel Assoc. (CIO) | 1 | |
| Moore Dry Dock Co.<br>Oakland, Calif. | Int'l.Assoc.of Machinists (AFL)<br>Bridge, Structural & Ornamental Iron Workers (AFL) | | 8 |
| Northrop Aircraft, Inc.<br>Hawthorne, Calif. | None | | 1 |
| Packard Motor Car Co.<br>Detroit, Mich. | United Auto Workers (CIO) | 11 | 7 |
| Philco Corp.<br>Philadelphia, Pa. | Electrical Radio & Machine Workers (CIO) | 2 | |

| Company and Address | Unions | AWARDS Certificate | Honorable Mention |
|---|---|---|---|
| Perfect Circle Co.<br>Richmond, Ind. | Employees' Union (Ind) | | 2 |
| Permanent Metals Corp.<br>(Richmond Shipyard No. 1)<br>Richmond, Calif. | Metal Trades Workers (AFL) | 4 | 8 |
| Pullman Standard Car Mfg. Co.<br>Butler, Pa. | None | 1 | |
| Radio Corporation of America<br>Victor Division<br>Bloomington, Ind. | Electrical Radio & Machine Workers (CIO) | | 1 |
| Radio Corporation of America<br>Victor Division<br>Camden, N. J. | Electrical Radio & Machine Workers (CIO) | 1 | 4 |
| Radio Corporation of America<br>Victor Division<br>Harrison, N. J. | None | 2 | 12 |
| Reliance Electric & Engineering Co.<br>Cleveland, Ohio | Elec. Radio & Machine Workers (CIO) | | 1 |
| Republic Aviation Corp.<br>Farmingdale, L.I., N.Y. | None | 2 | 1 |
| Sterling Engine Co.<br>Buffalo, N.Y. | United Auto Workers (CIO)<br>Federal Industrial Union (AFL) | | 1 |
| Submarine Signal Co.<br>Boston, Mass. | Elec. Radio & Machine Workers (CIO) | 1 | |
| Westinghouse Elec. & Mfg. Co.<br>Newark, N.J. | Elec. Radio & Machine Workers (CIO) | 1 | 3 |
| Westinghouse Elec. & Mfg. Co.<br>Mansfield, Ohio | Elec. Radio & Machine Workers (CIO) | | 2 |
| Western Electric Co.<br>Chicago, Ill. | Western Electric Independent Labor Association (Ind) | 1 | |
| Williamette-Hyster Co.<br>Portland, Oregon | None | | 1 |
| Yellow Truck & Coach Mfg. Co.<br>Pontiac, Mich. | United Auto Workers (CIO) | 1 | |
| | | 53 | 104 |

From the TUCSON LIBERATOR
Official Publication of Consolidated Vultee Aircraft Corp. Apr. 17, 1943

## WORK SAVING IDEA BRINGS $35 TO WIC

A Consair WIC, Mrs. Lucille B. Hussman, Inspection department this week became the first woman in the Tucson Division plant to win an award under the Employe Suggestion System. Mrs. Hussman's suggestion for the elimination of extra work in handling of stowed articles earned her $35.

She was topped by only one other winner, Leonard H. Kelley, Field Operations, whose idea for a new method of draining gasoline from ships before modification earned him $40.

## CUTS BOOKKEEPING RED TAPE

When it comes to thinking up war winners, machine workers have no monopoly on ideas. This is demonstrated by Miss Elsie McCreery who works in the payroll department at General Motor's Buick. She was awarded a $100 war bond for an idea which greatly simplified a bookkeeping operation in her department. It had been xxxx the practice to make a posting of the salary expense of each plant protection man to the payroll book of the factory to which he was assigned. Since the plant protection time sheets were kept in alphabetical order for the convenience of the men, considerable time was wasted in cross-checking. Miss McCreery suggested that the posting be discontinued and that plant protection expenses be prorated among all factories, as is done with xxxxxxx other non-production expenses. The division official who investigated Miss McCreery's idea reported: "This suggestion is a very good one and will be adopted by the Accounting Department."

From REPUBLIC
Phoenix, Arizona
Apr. 22, 1943

### WOMAN RECEIVED AWARD AT PLANT

Tucson, Apr. 21 - One of the few women to receive an award under the employee-suggestion system in the Consolidated Vultee Aircraft Corp Plant here, Mrs. Lucille B. Hussman of Tucson was awarded $35 for a suggestion which eliminated additional handling of stowed articles on B-24 Liberators.

Officials estimate her suggestion will save approximately 2,880 man hours per year.

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From JOURNAL
Milwaukee, Wisconsin
Apr. 22, 1943

### Ma and the Doughnuts

The story of Mrs. Palmer working at the Packard Co. where they make airplane engines, illustrates something as old as our history and probably as all history. It is the putting together of two seemingly unrelated things. Many small rubber rings called spacers are used in the Rolls-Royce motor. These, still hot, were piled in boxes; many stuck together and had to be scrapped. Mrs. Palmer "remembered one day that at home we put hot doughnuts in flour so they wouldn't stick. I used pumice pwoder on the spacers instead of flour. Now we don't scrap any."

That's a modern version, if you like, of the old story: "Pa got out his tools and fussed at it for an hour and then ma fixed it with a hairpin." Mrs. Palmer is of course exceptional, since in seven months she has produced nine suggestions increasing production as much as 100% on some operations. But the phenomenon isn't new.

Legend attributes the success of the sewing machine to the suggestion of a woman that the eye be put at the point. One gets a rather awesome idea of the potentialities of American invention when a woman who has worked only in restaurants and confectionery stores draws on experience to improve machine production. The war goes forward when we draw on such resources.

## WOMEN ARE INGENIOUS

At the American Steel Foundry in Granite City, Illinois, the foreman of the Sand Mill department brags on his women workers. In fact, he said they were better than men on that job. Pointing with pride to a device suggested by one of the female testers, he told the following story:

After a test of sand is made for moisture etc. the results must be communicated to the Sand Mill Operator. Male testers walked over to the mill each time and shouted the result of the test. One of the women on that job conceived the idea of having a clock-like device above the door of each testing room which would enable the mill operator to see at a glance what the results were.

Independent Woman
May 1943

# HER IDEA AIDS UNCLE SAM

Over the past ten years the Wrona sisters--Esther and Helen--of Saginaw, Michigan, have alternated in holding Michigan skating titles. Both are champion-speed ice skaters. Today both are working in local war plants. New honors now have been added to the career of Miss Esther, comely 25-year-old plant inspector of the Saginaw Steering Gear Division , General Motors Corporation, who while performing an assembly operation on .30 cal. Browning machine gun sights conceived a simple, well-formed idea which has resulted in the complete elimination of a part in the machine gun's important front sight, approved by the Ordnance Department.

Machine guns using the identical sight involved in her idea have been built in America's foremost arms arsenals since we entered World War I in 1917; yet never before has this manufacturing simplification occurred to any of the high-powered designers and engineers who have worked so closely with it. At the Saginaw plant alone it will total a monthly saving of 470 man-hours and $500 in material. It would be difficult to make even a conservative estimate of the monthly saving that will result in man-hours, material, and money in the many hundreds of thousands of machine guns built throughout our nation. At any rate such information is, of course, restricted.

Since 1917 front sights of Browning machine guns have been composed of two-hinged pieces of metal. To lock them, a hole was bored through the front piece, a ball and spring were inserted and held in place with a screw. Miss Wrona suggested boring the hole in the opposite side of the front piece and only part of the way through it, letting the pressure of the back piece of the sight when assembled hold the ball and spring in place, thus dispensing with the screw. In acknowledgment of her very real contribution, she was awarded a $1,000 War Savings Bond by her company, the first of this denomination presented to a woman among its 341,000 employees.

She sees nothing unusual in her revolutionary idea, and says modestly: "I merely figured out how to make a machine gun cheaper and quicker in line of duty. I submitted my idea in response to our management's request for employee suggestions to help speed up vital war production. While I was told I was to be rewarded in some way, I was so astonished when I was called to the platform one evening during the week's program of Victory Shows sponsored by our organization, and presented with the $1,000 War Bond, I could hardly answer the questions asked during the brief interview. Of course, I'm thrilled."

She was the second girl to apply for and receive employment at the gun plant when last May, the call went out for women to replace the decimated ranks of war production workers. Doing their share in our all-out effort seems taken for granted in the Wrona household. All are eager to do their part on the home front in a measure comparable to that of the three sons now overseas.

Miss Esther is just as reticent about her ice-skating achievements and those of her sister Helen. She won the Saginaw Diamond Derby senior women's division championship, the Southern Michigan championship, the Wyandotte Gold Cup, and the Michigan senior women's speed championship in 1942. Such is the mettle of young American womanhood today in our nation's war production.

May 2, 1943.

# 116 WAR WORKERS WIN IDEA AWARDS

Production Drive Bestows 35 Merit Certificates, 81 Letters of Honorable Mention

42 Honors in Shipyards

18 employees in New York and New Jersey are among Recipients Over Country

(Only one woman mentioned in this list). Ethel Bough, Dominick D. O'Connor and Phillip Lehrbaum of the RCA Victor Division, Radio Corporation of America at Harrison--evolved a method of alignment apertures on special tubes through the use of a tool maker's microscope.

# 116 WAR WORKERS WIN IDEA AWARDS

### Production Drive Bestows 35 Merit Certificates, 81 Letters of Honorable Mention

### 42 HONORS IN SHIPYARDS

### 18 Employes in New York and New Jersey Are Among Recipients Over Country

WASHINGTON, May 2—War production drive headquarters announced today the award of national suggestion honors to 116 war workers, including thirty-five certificates of individual production merit and eighty-one letters of honorable mention, bestowed for ideas improving production submitted to Washington by labor-management committees in over 2,000 plants and shipyards during the past month.

Selections of winners are made by a committee of twelve technical experts headed by Ray Millholland of Indianapolis, author and engineer.

Shipyard workers won eighteen, or half of the certificates, and twenty-four, or more than a quarter, of the letters of honorable mention. This record was acclaimed by W. Ellison Chalmers, acting chief of staff of the war production drive, as "notice to the Axis that even greater construction accomplishments are ahead."

Admiral Howard L. Vickery, vice chairman of the Maritime Commission, said that "these suggestions of the workers have proven a valuable source of ideas contributing to faster and better ship construction."

**Ideas Plowed Back Into Industry**

The suggestions are plowed back into industry to spread the improvements. Requests for data on suggestions are being filed at a rate of 835 weekly through the plow-back system.

Labor-management production committee have been formed in more than one hundred shipyards, representing close to a million workers. Two California committees submitted a total of twenty-one winning suggestions in the group announced today.

One of the Richmond Shipyard No. 1 certificate winners, James H. Cumming, an assistant master machinist, devised a power-driven check grinder which replaces hand filing and saves an estimated 120 man-hours per ship.

The first Negro ever to win a certificate is Charles H. Fletcher, whose suggestion was submitted to Washington by the Moore Dry

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The first Negro ever to win a certificate is Charles H. Fletcher, whose suggestion was submitted to Washington by the Moore Dry Dock Company—A. F. of L. committee of Oakland, Calif. He worked out a simple device to use in welding insulation pins to deckheads, which speeds up tack welding about 400 per cent.

**Awards Received in This Area**

Four certificates were awarded in New Jersey and one in New York. Honorable mention was won by ten workers in New Jersey and three in New York.

CERTIFICATES

New Jersey

ETHEL BOUGH, DOMINICK D. O'CONNOR and PHILLIP LEHRBAUM of the RCA Victor Division, Radio Corporation of America at Harrison—Evolved a method of aligning apertures on special tubes through the use of a tool maker's microscope.

THOMAS PENNINGTON of the Ferracute Machine Company in Bridgeton—Responsible for a device used for grinding and polishing toggle and crank pitmans on horizontal heading machines, reducing the time for finishing the knuckle bearings from three hours to thirty minutes.

New York

CLARENCE RUTBELL of the International Business Machines at Endicott, special ordnance tooling department—Devised a new tool, a fly cutter with a 9¼-inch span across its cutting surface, capable of producing rack teeth with increased speed and unusually close tolerance.

HONORABLE MENTION

New Jersey

GEORGE THORBURN, of the American Type Founders, Elizabeth—Evolved an improved method of taping hex nuts for ordnance, eliminating alignment trouble.

BAYARD B. ALCORN and FRANCIS R. Cerillo, of the American Type Founders, Elizabeth—Collaborated in suggesting new moulds for use in the assembly of 75 mm recoil mechanism, saving five minutes per unit and can also be used on the 105 mm.

MICHAEL REILLY, of RCA Victor Division, Radio Corporation of America, Harrison—Designed a special welding fixture for the salvaging of mounts, saving 750 man-hours in three months as well as critical metals.

HARRY TILLBERG Jr. and JOHN HAPPELL of the Radio Corporation of America—Suggested a new way of slitting cathodes used in tubes with a specially constructed die, releasing six workers for other duties.

A. J. BIERLMAIER of the Harrison RCA—Devised automatic welding of stops to wire support to prevent grids from sliding through micas, increasing production from 90 to 800 an hour.

MAURICE RIDGWAY and SAMUEL OSCAR SHUMAKER, process engineers for the Camden plant of the RCA Victor Division—Achieved a design change incorporating knurling with the automatic screw machine operation, freeing men and machines for other work.

FRANK PINCHES, of the RCA Victor Division at Camden—Suggested a method of salvaging long nose pliers and side cutters, increasing the usefulness of tools 90 per cent or more.

NEW YORK

LAURENCE G. ROBARDS of International Business Machines Corporation, Endicott — Devised a new tool in the auto-screw machine operation of cutting tabulator screw insulation of bakelite; the new tool going thirty-four to forty hours without grinding whereas the old tool had to be ground every four or five hours.

ROBERT C. CHERMAK of International Business Machines — Advocated the use of a solenoid and switch in a bench lathe operation to change a foot pedal operation to an automatic, system, eliminating fatigue for women workers.

JOHN E. KLEIN of International Business Machines—Developed a new method of broaching parts, eliminating one operation, lessening fatigue and the danger of injury.

## Heavy Fines for Garden Vandals

MIDDLETOWN, N. Y. (AP)—The city Common Council has adopted an ordinance fixing $50 to $200 fines for persons convicted of molesting victory gardens or garden equipment.

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# Treasury Department • War Savings Staff

## NEWS MATERIAL

RELEASE NO. 332

FOR RELEASE, MORNING NEWSPAPERS

Sunday, May 16, 1943

WASHINGTON, D. C. -- Plays of five drama students were selected today as the best in the drama competition conducted by the Women's Section of the War Savings Staff of the Treasury Department.

The plays were chosen as the five top dramas among many submitted by college students from thirty states. The five winners were:

Phillips Brooks Keller, Dallas, a student of the Department of Drama at the University of Texas, now in the United States Army. His play was entitled "Now is the Time."

Mary Moore, New York City, a student of Barnard College, N. Y. Her play was entitled "American Curiosities."

Mary Margaret Walter, St. Joseph, Missouri, a student of St. Joseph's Junior College. Her play was entitled "Uncle Sam's Nephews."

Virginia Wyatt, St. Joseph, Missouri, a student of St. Joseph's Junior College. Her play was entitled "You Will Remember This."

Lolly Bobrow, Mt. Vernon, New York, a student of Connecticut College, New London, Connecticut. Her play was "If You Were an Ostrich."

The manuscripts are to be used by various dramatic organizations for the promotion of the sale of War Bonds and Stamps.

As Treasury citations were mailed to the authors of the five best manuscripts, Mrs. Elinor Morgenthau, wife of Secretary Morgenthau, announced the competition had been so successful that plans for a second competition already were under way.

"The committee which sponsored and conducted this drama competition was well aware of its experimental nature," said Mrs. Morgenthau, a member of the committee, "but the response from all sections of the country was so enthusiastic and general that preparations for a second competition during the next scholastic year, already are under way."

The National Committee which originated and conducted the competition was headed by Miss Margo Jones of the University of Texas. In addition to Mrs. Morgenthau other members of the committee were: Mrs. Hallie Flanagan Davis, Dean of Smith College and Barrett H. Clark of the Dramatist's Play Service.

The National winners were chosen from the best manuscripts submitted by each of the colleges which took part. Drama teachers in the colleges were designated to choose the best presentation from their individual institutions.

Synopses of the Winning Plays are:

"Now is the Time" - by Phillips Brooks Keller, University of Texas, Austin, Texas.

Two hard-boiled human interest reporters interview the millionaire who has just bought a million dollars worth of bonds and get a good sermon (really good), and leave convinced they have been talking with a good man. Good dialogue, good title, and very neat curtain.

"American Curiosities" - by Mary Moore, Barnard College, N. Y.

A satire of what might happen if America lost the war. Scene is laid in the hills of Michigan in 1955 while the Japs and Germans are fighting for the United States. A professor of archeology, his wife and sister are living in the hills in a semi-savage state. Costumes are weird and lines farcical. The professor chips away at a relic of a monument regardless of the advance of the Germans who arrive, shoot him and his wife and then read the inscription over which he has been working. It turns out to be "Buy War Bonds and Stamps" - an American curiosity.

"Uncle Sam's Nephews" - by Mary Margaret Walter, St. Joseph's Junior College, St. Joseph, Missouri.

A troubled soldier dreams that he is behind barbed wire guarded by Japs. He is afraid that he is doomed to lose his freedom because the people at home aren't backing him up. His sergeant, to whom he tells his dream, points out that supplies have been reaching them and convinces him that the American people are solidly behind him and are all fighting for Freedom.

"You Will Remember This" - by Virginia Wyatt, St. Joseph's Junior College, St. Joseph, Missouri.

Simple unpretentious script (radio technique) in the form of a letter from a soldier to his girl at home. He recalls the various little things they have done together - chatting in a porch swing - a soda at the drug store, etc. The play is moving and human, and puts across that the homely fragments of everyday life are worth fighting for.

"If You Were an Ostrich" - by Lolly Bobrow, Connecticut College, New London, Connecticut.

Well written original radio skit which shows a moral instead of preaching it. Shows brief glimpses in the life of an average American from babyhood through adolescence and parenthood. The theme is that one should not stick one's head in the sand and be unaware of what goes on in the world, but be on guard to keep the worthwhile things we have.

-oOo-

MVR

From The Consolidated News
July 1, 1943

## Woman, Man Share $170.00 Idea Prize

Out of the mother of necessity last week was born the winning suggestion which earned for its originators the top award of $170 in cash. Mrs. Ina Shultz Reed, who "did something" about the necessity, and George J. Kaczmarek, both of Dept. 244, who conceived the basic idea, shared this award.

A total of $597.50 cash was awarded to 30 employes, and two others gained honorable mention, the Employe Suggestion Committee announces.

Mrs. Reed, who has been a "pioneer" women at Convair since Nov. 10, 1941 and Ka czmarek, former Singer Sewing machine expert in his native New York, devised a form of paper pattern to be cemented directly onto sheets of Hycar so as to facilitate cutting out all the shapes of synthetic rubber needed for one plane.

By piling as many as 15 sheets of Hycar, one on top of the other, they now can cut out all the parts for 15 ships on one pattern. This accelerated the cutting to the extent that, as of last week, they were way ahead of production schedules and were busy doing other tasks.

Mrs. Reed, finding that Hycar wouldn't show white or black pencil markings sufficiently, approached Ka czmarek with the flat assertion they'd have to invent something or "I'll go blind."

Kaczmarek, from his experience in the east, offered the idea of some kind of a pattern to lay over the material as a guide for cutting. Paper seemed the only answer. Mrs. Reed sketched the correct outlines on a sheet of paper and this was reproduced photographically to provide a quantity of patterns.

From the Tucson Liberator
July 10, 1943

Dorothy L. Avery, Production Control Received $5 award for a cabinet for storing Van Dyke prints.

From Washington Times Herald
July 20, 1943

AWARDS

WOMEN RECEIVE AWARDS

Four more women workers have been cited for awards by the War Production Drive for suggestions which have contributed to industrial efficiency, Included in this group is the first Government worker, man or woman to be so honored.

A.certificate of individual production merit has gone to Amelia Schartoff, an inspector in the Tieflex Metal House Co. of Newark, N.J., who with two of her men co-workers, made suggestions for a new method of inspecting and gauging nuts which saves 29,472 man-hours per year.

A similar certificate has been awarded to Bessie Telban of the Westinghouse Electric & Manufacturing Co. in East Pittsburgh, Pa. Miss Telban devised a new method of insulating compensating joints on special Navy generators which saves 1564 man-hours and 800 square yards of glass cloth per year.

A 54-year old Government worker, Mrs. Mary M. Murdock, who after 32 years absence from office work, took a war job as a clerk in the awards branch of War Production Drive headquarters in Washington, D.C., has also received a certificate of individual production merit. She developed a method of processing suggestions submitted to Production Drive headquarters by labor-,amagement committees which permits the servicing of all industrial inquiries for suggestions within 24 hours. With requests nowbeing receive at the rate of around 1000 per week, her suggestion saves 16 manhours a day and about 264,000 sheets of paper per year.

During her year in Washington, Mrs. Murdock has never taken a day of annula leave or sick leave. One of her sons is in the armed forces, another a machine toolmaker in an aircraft plant, and a daughter replaced a man in a war job with one of the commercial airlines.

Drewes

The fourth woman, Mrs. Ann Keefe Brewes, chief statistical clerk, R.C.A. - Victor Division of Radio Corp. of America in Harrison, N.J. was given an honorable mention. Her suggestion was that the hectograph machine could be used on certain forms to eliminate both a three-day delay and the cost of making photostatic copies.

# AWARDS

The Tucson Liberator
July 31, 1943.

Albertina Bustamante received $35 for her suggestion for a wrapping table for wrapping loose equipment.

The Tucson Liberator
Aug. 28, 1943.

Dorothy L. Avery received $5 for suggesting the use of a container to catch waste paper cuttings from prints run on the BW printer.

Betty Henderson earned the largest suggestion award ever given by the Tucson Division last week . . . Betty's idea was a comparatively simple one . . . a system of stenciling receipt report numbers on boxes of material received by the stock room . . . but it will mean a very considerable saving . . . one that goes well into four figures over the span of a year. She was awarded $147.50 in bonds and a $50 War Bond.

# WOMAN WORKER GIVEN HIGHEST TUCSON AWARD

Of a total of $255 awarded employees of the Tucson Division, Consolidated Vultee Aircraft Corp., this week, $185, the highest single award ever made here, went to Mrs. Elizabeth Smith Henderson/ She was awarded $147.50 in bonds and a $50 War Bond.

Mrs. Henderson's award was for her suggestion for stenciling receipt report numbers on boxes of material received by the stock room and it is estimated will result in an annual savings running well into four figures.

Dorothy L. Avery was given one of four $5 awards made for her idea for shelves to store B and W cut sheets.

From THE TUCSON LIBERATOR

New ideas Bring Seven Convair Workers Total of $117 in awards.

One woman, Mary K. Norman was awarded $5 for a cabinet for storing numbered sleeves and sphaghetti for the radio department.

The six others were men.

# MONTH ON JOB, GIRL MAKES $300 SUGGESTION

When Marie Kujawa went to work in the machine gun plant of the Saginaw Steering Gear Division of General Motors as one of its first women employees, the job of assembling the leaf and slide of rear gun sights was a tedious matching operation which had been taking a man almost two-minutes per sight to complete.

Just one month later the 27-year-old girl called over her foreman and showed him how, by gauging each part in advance, production could be jumped to two a minute, a 300 per cent increase. Miss Kujawa's suggestion was one of 31,777 submitted in the first 5 months' operation of General Motor's Suggestion Plan to Increase War Production. As her share of the increased production she received an award of three $100 war bonds and $4.50 in war stamps.

WOMEN AT WAR (Awards) L-M News, Aug. 9, 1943, p.5

"Housewife Invents Burning Table," Mrs. Maude Wright is here shown with her suggestion that doubles the production of strongbacks at Richmond Shipyard No. 1, at Richmond, California.

Award to Woman. Mrs. Knight Gets Only Certificate Among 15 Richmond Honors.

Maude Wright, housewife extra-ordinary, leads her colleagues at Richmond Shipyard No. 1 into fourth place in national suggestions honors, getting the only certificate among 15 honors granted to this yard. Her idea deals with the production of strongbacks. Strongbacks are made from droppings of heavy shell plates, and must be machine bur burned so that their longitudinal edges are atraight and preferably parallel to each other.

Previously, the plate was hauled from the plate shop to the salvage area, at some remote spot, where it was segregated and processed. The manufactured strongbacks were then loaded in skips and returned to the ways. This involved a lot of long distance moving and delay.

### Applies Home Methods

Accustomed to figuring out ways of saving steps, Mrs. Knight suggested that a table be set up where the plates were shaped so that strongbacks can be made on the spot. Her table also includes a skip underneath, into which the pieces are deposited in an orderly pile to be delivered directly to the ways.

Mrs. Knight first woman west of the Mississippi to receive national recognition, was born in Missouri in 1888. Feeling that she could ~~only~~ play a part in winning the war, despite her age, she attended burner's school and last February she went to work at Richmond No. 1 as a burner in the plate shop/

Other Richmond winners are here listed. Attractive rural mail bxes are the receptacles for suggestions solicited by the Labor-Management Committee of Fairchild Aircraft in Hagerstown, Md., representing Co. officials and representatives of the UAW, CIO (Photo is given of woman collecting mail from box: "Ideas dropped in Rural Mail Box -- Mrs. Dorothy Dickenson, Guardette, Collects Fairchild Aircraft Plant Suggestions."

The Consolidated News
A ugust 12 , 1943

## WOMAN WINS TOP PRIZE IN QUARTERLY DRAWING

Over hill and dale, through three changes of address, searchers finally caught up with Mrs. Elma C. Lee, Dept. 174, Monday to advise her that she had won the top award of $1,000 worth of War Bonds at the quarterly Work-to-Win drawing Saturday.

When found, she was delighted but not too surprised, because when she came to work on her second shift Saturday night she noticed her name at the top of the big board. However, the joy of it was still with her on Monday.

Mrs. Lee, inner of the first award, has not missed a minute from work since she started on Oct. 26, 1942. Her husband has missed only a week from illness in the two years he has been with this company.

Labor-Management News, August 16, 1943 p.6

WOMEN AT WAR (awards to women)

Two Girls Score - Capture First Honors Chalked up by Murray Corp.

Two girls employed at the Murray Corp. Detroit, have the distinction of chalking up the first National honors for their L-M Committee. They are Geraldine L'Hullier, and Jessie Conley, both assemblers.

Miss L'Hullier won a certificate for suggesting a new tool to pick up small washers so that they could be easily applied over rivets to hold on Dzus fasteners in aircraft parts manufacture. The old method consisted of picking up the wahser with the fingers, and applying it to the end of the rivet. This was a difficult job because the part is so small.

No girls can do the operation without any trouble. Miss L'Hullier's idea eases a tedious and time-consuming job. Altogether 18 hours are saved daily, and production is increased by 120 pieces per hour. A new method of assembling rivets in two small stampings and gasket was suggested by Miss Conley. Under the old way, there were 3 steps; (1) Picking up 3 pieces, one of which was a flexible gasket, (2) lining up the rivet holes, and (3) sticking in the rivets.

She devised and assembly fixture whereby the rivets are inserted in one of the 3 pieces, and then placed on the fixture. The gasket is next applied over the rivets and finally the third piece is put in. Her idea eliminates awkward assembly procedures, and increases production more than 45 per cent.

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Consolidated News, Sept. 30, 1943, p.5

WOMEN AT WAR

Photo given of "First woman to file propellers for minature planes built in the Model Shop ...Anne Minshew calls the job painstakingly fascinating."

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Consolidated News, Sept. 30, '43 p.5

One of 7 Dancing Sisters Works Here to Aid Hubby.

"She belonged to a team of 7 dancing sisters who enraptured audiences in that many States but today Mrs. Cleone Ray has deserted the footlights because she wants to do war wirk while her Marine husband fights in the South Pacific. She says she feels closer to him here.

"For 8 wonderful years, the girls tap-danced and sang from N. Dakota to Missouri and from Wisconsin to Nebraska at county fairs, conventions and theaters. While young Mrs. Rae checks on clock-punching in her job as timekeeper for Building 3, Plant Two, she sometimes grabs a spare moment to remember the fun it was."

A utomotive War Production
Sept. 1943 p.6

## Women "Tinkerers" Speed War Output
## Prove Ingenuity is no Male Monopoly

Yankee ingenuity, traditionally regarded as masculine, turns out to have been latent in female brain cells all along.

Enthusiastic tinkerers who a short while back ran for the man of the house when the bathroom spigot leaked or a nail in the kitchen needed hammering, now not only take the manipulation of intricate machinery gracefully in their stride but manage to come up with a host of new inventions and gadgets as they go along.

One plant recently reported that the first two certificates for individual production merit awarded its employees by the War Production Board have gone to women.

One of these awards was for devising a pencil-like tool which neatly picks up small rivet washers, eliminating the tedious job of picking them up by hand. The young aircraft worker who submitted the suggestion was able to boost production of a small assembly by 120 pieces an hour She saved 18 hours of production time a day.

The other worker to be cited was the inventor of an ingenious arrangement for telescoping a three-step job into a single operation. Her output and that of other workers on the same job thereby increased 45 per cent.

## Women Who Received Awards for Suggestions

From
Atlanta Constitution
9/1/43

For a suggestion resulting in simplification of machine gun manufacture, submitted after she had worked in the gun plant only six months, Miss Esther Wrona received a $1,000 War Bond.
(General Motors)

Atlanta Jouranl 9.1.43

### BRECON 'POWDER GIRL' NAMED SAFETY ACE

Talladega, Ala. Aug. 31 - Miss Madeline Dison, of Talladega, pours on a warm Southern afternoon--but it isn't tea. It's black powder and she' so handy with it that the National Safety Council of Chicago designated her as a "Safety Ace" in a special award. The first woman to be employed on the black powder loading line of the Brecon Laodain Company plant, Miss Discon told the men to anchor sewing machines to the floor to eliminate needle punctures in workers' fingers and to hang the powder tables from the walls to help good housekeeping on floors where dangerous powder dust might fall. The Brecon Loading Co. munitions subsidiary of the Coca-Cola Co. operates the Coosa River Ordnance plant.

## AWARDS

Sept. 1, 1943 War Dept. Bureau of Public Relations Release

### ARMY NURSE IS SECOND WOMAN TO RECEIVE SOLDIER'S MEDAL.

Award of the Soldier's Medal to Second Lieutenant Margaret M. Decker, Army Nurse Corps--the second woman ever to receive this award--was announced today by the War Department.

The medal was awarded to Liettenant Decker for herosim at Topaz, California, on June 19, 1943, when, according to the citation accompanying the award, while swimming in the Colorado River, without regard for her safety she went to the rescue of a soldier and saved him from drwoning. Though physically exhausted, Lt. Decker administered first aid to the soldier and accompanied him to a station hospital, where he was given medical attention.

Lt. Decker is assigned to the a27th Station Hospital, Desert Training Center, California. She is a daughter of Mrs. Llewellyn Decker, 38 Hill St., Rocakaway, N.J. She entered the Army Nov. 19, 1942. She is a graduate of the St. Barnabas Hospital School of Nursing, Newark, N.J., in the class of 1938.

The first woman to win the Soldier's Medal, established in 1926, was Second Lt. Edith E. Greenwood, Army Nurse Corps, of North Dartmouth, Mass. She was given the award for saving her patients in a fire in a station hospital near Yuma, Ariz. on A pril 17, 1943.

A.F. of L. Weekly News Service, Sept. 14, 1943

A woman shipyard worker, Mrs. E. L. Norwood, received Honorable Mention for devising repair pliers which make repair jobs easier, quicker and safer.

MVR

General Motors, Detroit, Michigan 9/14/43

Photograph of Maria Kujawa a worker in the machine gun plant of the Saginaw Steering Gear Division of General Motors as one of the first women employes, went to work on the job of assembling the leaf and slide of rear gun sights, a tedious matching operation which had been taking a man almost two minutes per sight to complete.

About a month later the 27-year old girl called her foreman and showed him how, by guaging each part in advance, production could be jumped to two a minute, a 300 per cent increase. Miss Kujawa's suggestion was one of 31,777 submitted in the first five months' operation of GM's Suggestion Plan to increase war production. As her share of the increased production she received an award of three $100 war bonds and $4.50 in war stamps.

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GM "FOLKS" Dec. 1942

p. 15

A Happy Marriage of Ideas

Marguerite Ellis, solder operator, and Ralph Colwell, repairman, both of Delco Radio, joined forces with a pair of complementary suggestions that materially speeded the difficult job of handling extremely small contact pins for insertion in a barrel switch. Mr. Colwell found that if the pins were shaken on a piece of ordinary window screens, they would right themselves with the small ends going through the screening and the head remaining on top. Miss Ellis then conceived the idea of grinding a special pair of pliers so that the pins could be picked up easily by their heads. Each worker received a $25 war bond for his share of the joint suggestion.

Cuts Bookkeeping Red Tape

Miss Elsie McCreery, who works in a payroll department at Buick received a $100 war bond for an idea which greatly simplified a bookkeeping operation in her department. It had been the practice to make a posting of the salary expense of each plant protection man to the payroll book of the factory to which he was assigned. Since the plant protection time sheets were kept in alphabetical order for the convenience of the men, considerable time was wasted in cross-checking. Miss McCreer6 suggested that the posting be discontinued and that plant protection expenses be prorated among all factories, as is done with other non-production expenses. The division official who investigated Miss McCreery's idea reported: "This suggestion is a very good one and will be adopted by the Accounting Deppartment."

The Tucson Liberator
Sept. 18, 1943

Dorothy Conrad took top suggestion plan award money this week when she received $33 for her suggestion for placards to be used certain classification kit ships. Her suggestion will, it is estimated, save 903 manhours annually.

WOMEN WORKERS (Factory Mgt. and Maintenance). Oct. 43. ✓

SHE'S A WOW (Woman Ordnance Worker).

(pix of girl at machine).

She's Ginny Close -- 21 years old -- 95 pounds -- married -- member of the 10% Club -- She's a WOW. In fact she's the smallest multiple-spindle automatic lathe operator in the world.

But she holds a more important record -- 2286 shells produced in 8 hours with the help of her 8-spindle Conomatic.Ⓐ She does her own tool setting, loads the machine with stock, beats the boys at their own game, then takes care of her six room house, and feeds 100 chickens and a farmer husband.

The Hosdreg Co. is pretty proud of Ginny, with her cheerful attitude and happy smile -- and also proud of their Conomatics, with their easy operating features and outstanding production capabilities. Get a WOW like Ginny and a Conomatic on the job, and you're bound to break more than one record!

(Cone Automatic Machine Co.,Inc., Windsor, Vt.) Ⓐ (trade name of machine)

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Pix of girl at work.

NO "BOMBERS" IN OUR GUN SIGHTS.

This girl is assembling the lenses of an anti-aircraft fire-control device. The 2nd picture is a close-up of the work. At the back of her work bench, is a Dust-Stop Air filter. Out of this filter a stream of clean moving air blows away any dust that may be floating around above the work bench and prevents it from settling on the lenses she is assembling.

If a speck of dust, even 1/10,000th of an inch in diameter, were to get on one of these powerful lenses, magnification would make it look like an enemy "bomber" to the gun sighter.

Labor-Management News, Oct. 4, 1943

WOMEN WIN AWARDS

Two women are among 32 winners of national production honors announced today by War Production Drive Headquarters. The Drive's Board for Individual Awards granted six Certificates and 26 Honorable Mentions to workers whose suggestions for doing their jobs better, submitted through their Labor-Management Committees, have resulted in greater production in 13 plants.

The women who share in this week's awards are Mrs. Theresa Ricci LaManna and Miss Mary Fretch, both employed by the RCA Victor Division, Harrison, N. J. which has an employees' independent union. Each received Honorable Mention.

Mrs. LaManna has been with RCA Harrison for 15 years, and has had various jobs on tube assemblies. At present she is a leader and has completed courses in job methods and job instructors training. She suggested a new method of welding getters which eliminated a high percentage of former shrinkage and saved approximately 10,000 labor hours.

Miss Fretch has worked at RCA Harrison for 8 years in assembling, mounting and inspecting. She suggested the use of a different type grid wire. The wire formerly used was fragile and was often damaged in sizing, trimming and spraying operations. The wire now used at her suggestion makes a stronger support, decreases shrinkage and requires no carbon spray, thus eliminating one operation, saving about 2,500 labor hours.

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Atlanta Constitution, 9/10/43

WOMEN AT WAR

"Conditioned to women welders, barbers, machinists, WACs, WAVES, cotton pickers and whatnots, Atlantans scarcely raised an eyebrow yesterday at the newest infiltration of the 'frocks' into the muscle-making jobs."

Mrs. T. J. Gabriel, Atlanta, Ga's first woman bus driver, a former manager of a Chicago department store, and a native of that city. Her husband is in the Army now in Australia. "I like bus driving," she said. "It's harder than driving a car, but now that I'm used to it it's not so very tiring."

This is not her first bus driving job.

"I drove a bus in El Paso, Texas for 4 months.

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Fore 'n' Aft, Aug. 6, 1943, p.5

WOMEN WORKERS

"A small but mighty package of energy is Mrs. Florence Beck, right, labor leaderwoman, who has a crew of both men and women handling new and used lumber near the shipwright's sawmill. She has 2 sons in the service - William, with the Engineers Corps on North Africa, and Haskill in the Medical Corps in a training camp. Her husband, W. O. Beck, is a steamfitter in Yard One. That's almost 100 per cent.

The Consolidated News
Oct. 21, 1943

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### Women in Upholstering Make It Warm for Liberator Crews

Talk about feminine strongholds!

It's a safe wager you can't find a better spot to show off woman's magic touch in aircraft production than in Upholstering--Dept. 244.

All the bitter winds of far-off skies can't chill a Liberator crew after the girls in Upholstering contrive warm insulation to line each flight deck. This heavy padding also acts as sound-proofing to dim the overwhelming roar of the motors.

Some of the girls who seam up panels in Dept. 244 arrived at Convair two years ago, when there weren't any women here. And within a short time, the ladies had revamped one procedure, that of cutting out irregular rubber parts used in B-24s. They know how to do it better. They saved time and material by laying out patterns as if they were cutting a dress, instead of using a template. . . . . . . .

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WOMEN WORKERS (Factory Management and Maintenence). Oct. 1943

She's A.W.O.W. (Woman Ordnance Worker) (Pix of girl at machine).

She's Ginny Close -- 21 years old -- 95 pounds -- married -- member of the 10% Club- She's a WOW. In fact she's the smallest multiple-spindle automatic lathe operator in the world.

But she holds a more important record -- 2286 shells produced in 8 hours with the help of her 8-spindle Conomatic. (Trade name of machine.) She does her own tool setting, loads the machine with stock, beats the boys at their own game, then takes care of her six room house, and feeds 100 chickens and a farmer husband.

The Hosdreg Co. is pretty proud of Ginny, with her cheerful attitude and happy smile-- and also proud of their Conomatics, with their easy operating features and outstanding production capabilities. Get a WOW like Ginny and a Conomatic on the job, and you're bound to break more than one record.

(Cone Automatic Machine Co., Inc., Windsor, Vt.)

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~~Pix of girl at work~~

~~O "BOMBERS" IN OUR GUN SIGHTS.~~

~~This gir~~

The Tucson Liberator
Oct. 23, 1943

Miss Ann Wiess received an award of $5 for her suggestion for widening of shelves and increasing depth of lower bins in stockrooms.

Consolidated Vultee Aircraft Corporation
October 28, 1943.

Nary N. Payne received $7.50 for suggesting an improved sequence of soldering wires and switch boxes.

The Tucson Liberator
Nov. 6, 1943.

Mrs. Dorothy L. Avery, Engineering, earned her fifth $5 award this week for a total of $25.

The Tucson Liberator
Nov. 20, 1943.

Elizabeth M. Goodman received $27 for devising a protective covering for flight deck carpets.

News & Post
Baltimore, Md.
Oct. 28, 1943.

### BUS LINES HIRE WOMEN DRIVERS

Chicago, Oct. 28—Major bus lines throughout the nation now are hiring women to drive the highway streamliners after West Coast companies found women did a capable job.

The National Association of Motor Bus Operators reported the manpower shortage is bringing about the change even though men bus drivers are classed as essential workers.

Women drivers already employed are handling the shorter intercity routes.

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### NEW JERSEY GIRL WAR-WORKER REFUSES PAY RAISE

Newark, N.J., Jan. 18 (N.Y.News) Anne Marie Sofa, 19 today won the Office of War Information's nomination as the most modest war worker in New Jersey. After making a suggestion that increased her production 1,600 per cent, Miss Sofa refused to accept a pay raise or a bonus. "I want to do what I can for the war effort," she remarked. Miss Sofa works at the Frank L. Kaltman Company, lens manufacturers. Her job was to attach a wax mold to lenses preparatory to polishing. By suggesting a new "button type" mold, she now handles 400 lenses in the time it took her to handle 25.

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American
Baltimore, Md.
Oct. 31, 1943.

### 246 Women Help Fight Forest Fires

Portland, Ore. Oct. 30-- Due to the severe manpower shortage 246 women are filling forest fire protection positions in Oregon and Washington national forests.

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Washington News
Sept. 1, 1943
Wash. D.C.

### SERVED FAMILY 76 YEARS

Highland Park, Ill.-- Miss Mary Wintres ended 76 years of employment with the same family when she died recently at 92. She was serving her first employer's granddaughter wheh she died.

WOMEN WAR WORKERS by Mrs. Walter Ferguson

Pittsburgh, Pa. Nov. 1, 1943.

Approximately 75 per cent of the civilians employed by the Army Servixe Forces are women. The War Department's vast Pentagon Bldg. in Washington is honey-combed with them. From Mrs. Emily Blair and her assistant, Mrs. Shepard in the Public Relations section, I learned several interesting facts you might like to know.

After a little training the housewife makes a first-class worker. She a already knows how to do many things with her hands, and having had to exercise ingenuity in her own household, she's resourceful to begin with. These ex-homemakers take to war work like ducks to water, and their employers like them because they bring a keen desire to learn and new zest to their jobs.

The Army is about convinced that women may be better than men in most jobs.

At a certain chemical packingg plant a team composed of women, and with a woman supervisor, has broken all production records. They've done this by the use of the common sense which the housewife frequently is forced to call to her aid. Deciding that all members of the team should know something about all the jobs instead of only one, they have pinch hitters in any emergency and have piled up records that make the men's eyes pop.

The impression I got from many conversations with women workers was this: "To heck with the men! We could do all this stuff quicker and better if we had the chance." The remark of a cute little WAC sums up the case, "Sure I like the Army -- but sometimes I get pretty damned sick of male inefficiency."

# # #

WOMEN's INVENTIONS. (from talk given by Civilian Personnel Officer, NYPE, Lt. Col. Clifford J. Hauge.

Sent WB by Lily Lykes Shepard, Women's Interest Section, War Dept. 11/20/43.

At the N.Y. Port of Embarkation (Name cannot be given).....

Recently the War Dept initiated a policy of rewarding civilian employees for suggestions resulting in increased efficiency and a marked saving of money to the government. The necessary review and evaluation procedure was established at the Port and, as a result of this policy, the first cash award made for a suggestion was awarded to a woman. The suggestion submitted by this girl amounted to a saving for the government of nearly $8000 annually for which she received an award of $276.

From The Consolidated News
Thursday, Nov. 25, 1943

For thinking of the idea of four doors instead of two, in this plastic oven (picture given) A. B. Oswalt, Dept. 910 -,Anaheim Feeder Shop, won an award of $315 in the Employee Suggestion campaign recently. Doubling the numbe of doors reduces the loss of heat and enables the shop to speed up its own assembly line.

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From The Consolidated News
Thursday, Dec. 2, 1943.

For the first time in many months a woman bobbed up in the "big money" in the Employe Suggestions plan when Miss Clare Ferris, Dept. 905--Laguna Beach Feeder Shop, took third highest award of $100. That was the highest amount paid to a woman since Miss Quincy Smith, also of Laguna won $100 and a $25 war bond last March
Miss Ferris thought of her idea in a flash, she said, and figured it out to submit to her supervisors. It was a method of reworking the Burndy sleeves to include the wire gauge number and eliminate scrapping of 100,000 sleeves.

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The Labor-Management News
Nov. 27, 1943.

### Model Gets Job as Shipworker , Idea Wins Prize.

Meet attractive 31-year old Mrs. Ella F. Baikie, electrician par excellence, and only certificate winner this week at the Kaiser Co., Vancouver, Wash. Yard (Metal Trades Council,AFL.)

Mrs. Baikie, mother of four children, has a varied work history. A model for a Portland department store, she decided to go to training school to become a nurse. Following graduation, she practiced at being a R'N.nurse in Boise, Idaho, until she was married.

Somewhere along the line, Mrs. Baikie, still very good to look at, donned overall and became an electrician.

Large quantities of the parts for the stingers, on which Mrs. Baikie works, were classified as irreparab~~b~~le since no accurate way of holding the damaged parts for brazing was available. This set her to thinking, and she came up with this winning device that shows her to be a practical patriot.

Mrs. Baikie suggested stinger repair molds to facilitate the repairing and re-rebuilding of welding electrode holders, sometimes called Jackson stingers.

Three shapes of molds were then made at the forge shop which are the shape of the following parts: Upper jaw, lower jaw and teeth. Each of these parts may now be placed in its proper mold and held firmly in a position to be repaired.

With the very important result that an average of 15 stingers can now be remade in one day, and each os these serves the same purpose as new ones costing $5.50 each-a daily saving of $82.50 per 24-hour day.

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The Labor-Management News
December 11, 1943.

### Six Workers Honored for Ideas

Carmen M. Magley, works on one of the skids where the bulwark assembly jig is positioned. Shift after shift saw her wasting a full half hour each time the bulwark clamp had to be secured. So she had an idea, and was not shy about submitting it to L-M Committee.

The winning suggestion for an adjustable clamp has been estimated to save 97 per cent of the time formerly required along the length of the bulwark. The clamp is slidably attached to the jig which may be pivoted over the bulwark and dropped into position where a wedge driven there-between will force the bulwark against the jog. A second wedge will force the plate to be welded against the lower web of the bulwark. This clamping operation takes but one minute.

Many hundreds of man-hours have been saved as a result of a simple batten clip holder, cleverly designed by Shipwright Herman Soderstrom. Formerly the clip was held by hand, was often out of line and had to b chipped away and reset. As there are thousands of these clips on each cargo vessel, the saving becomes appreciable in a short time.

SUPERVISION
Dec. 1943 p.10

# FOREWOMAN SOLVES ASSEMBLY PROBLEM

A double forming fixture devised by Victoria Abbott, a forewoman at a General Electric plant, halved the time needed to assemble random wound coils to the stator cores of small instrument-type motors and made the operation easy for new assemblers to master. This picture shows her removing one of the telescoping forming plugs from a core and coil assembly.

The core must be shaped and bound at its two sides. Previously, the coils on one side were packed around a forming plug, after which the plug was removed and inserted in the other side. Frequently the binding and shaping operation on the second side would force the turns on the first side out of shape. The operation depended largely on trial and error, and was difficult even for experienced operators.

Miss Abbott solved the difficulty simply by designing a pair of forming plugs which couple by telescoping inside the core, making it possible to shape and bind both sides before removing either plug.

WESTINGHOUSE Central News Bureau
Dec. 1, 1943.

## SUGGESTIONS SPUR WESTINGHOUSE WAR EFFORT

PITTSBURGH, Pa., Nov. 30 -- Nimbel-witted employees in busy war plants of the Westinghouse Electric & Manufacturing Company added 330,000 extra man-hours to their war effort in the first six months of 1943 by suggesting new and better ways of getting things done.

"Men and women in a score of plants and offices handed in 17,235 war production ideas during this half-year period,"Charles R. Riker, coordinator of the Westinghouse Suggestion System, said today. "Suggestion committees in the different plants approved 5,384 of these ideas and put them to work to speed the war effort."

### Suggesters Get $67,600

For these ideas, he reported, the suggesters were paid a total of $67,600, an increase of $26,127 over the awards paid during the previous six months.

"Suggestions," Mr. Riker said, "have played a large part in helping Westinghouse to meet production schedules despite manpower shortages and scarcity of materials. They have also helped to increase safety, preventing accidents that would mean lost time on war jobs." . . . . . . . . .

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"Most of the useful suggestions, "Mr. Riker said, "required no technical knowledge or special training. They were common sense -- but somebody had neglected to use common sense until the suggester handed in his idea.

"For instance, putting a handle on a 'bobby pin' is increasing production of generator cut-outs, magnetic 'watchmen' that protect the electrical systems of bombing planes.

"This suggestion was made at the Lima, O., Small Motor Division by Mrs. Gladys Mechling, whose son, Harold, is a U. S. Navy flier. Mrs. Mechling now turns out 100 armatures for these cut-outs in three and a half hours, a task that formerly took five hours."

Mrs. Mechling noticed that the most difficult job in making armatures was bending a delicate copper blade by holding it against a tiny rod and pressing against the copper to curve it around the rod.

### Bobby Pin Tool Does Trick

She conceived the idea of fitting two small metal prongs, just like the ends of a bobby pin, in a screwdriver handle. With this tool the blades can be bent accurately with a single twist of the wrist. This suggestion won a $111 award and Mrs. Mechling also received a $25 war bond for the best production idea of the month at Lima.

U. S. DEPARTMENT OF LABOR
WAGE AND HOUR DIVISION

Atlanta, Georgia
(Field Office)

Miami Citizen

Miami, Florida
(Paper)

December 2, 1943

# Mother of Four Children Gets Idea Certificate

Meet attractive 31-year-old Mrs. Ella F. Baikie, elecrtician par excellence, and only certificate winner during a recent week at the Kaiser Company, Vancouver, Wash., Yard (Metal Trades Council, AFL).

Mrs. Baikie, mother of four children, has a varied work history. A model for a Portland department store, she decided to go to training school to become a nurse. Following graduation, she practiced at being a R. N. in Boise, Idaho, until she was married.

Somewheres along the line Mrs. Baikie, still very good to look at, donned overalls and became an electrician.

Large quantities of the parts for the stingers, on which Mrs. Baikie works, were classified as irreparable since no accurate way of holding the damaged parts for brazing was available. This set her to thinking, and she came up with this winning device that shows her to be a practical patriot.

### Idea That Works

Mrs. Baikie suggested stinger repair molds to facilitate the repairing and rebuilding of welding electrode holders, sometimes called Jackson Stingers.

Three shapes of molds were then made at the forge shop which are the shape of the following parts: Upper jaw, lower jaw and teeth. Each of these parts may now be placed in its proper mold and held firmly in a position to be repaired.

With the very important result that an average of 15 stingers can now be remade in one day, and each of these serves the same purpose as new ones costing $5.50 each—a daliy saving of $82.50 per 24-hour day.

Kansan
Kansas City, Kansas
Dec. 16, 1943.

## Their Suggestions Helped Speed Bombers to War Fronts

Winnie the welder and Rosie the riveter are learning things these days in the war plants which make them odds-O n favorites to win the post-war battle of the kitchen.

Winnie and Rosie and thousands of their counterparts are too busy building bombers, turning out shells and power and the like to do much more than run thru the kitchen just before meal time and reach for a can of rationed food.

But let the sirens scream of peace and Rosie and Winnie will be ready to tell kitchen gadget makers just why a mechanical can opener won't work--and show him how to make it work without three or four unnecessary cog wheels.

The war plant women workers not only have proved they can hold down jobs. They daily demonstrate that they can tell their bosses how to do it better and faster. It's a tendency that manufacturers who plan to produce for the post-war home had better study thoroly.

Women welders of B-25 Billy Mitchell bombers, employed in the North American Aviation inc. plant, here, advances suggestions ranging from gadgets to simplify some operations to improvements on the most intricate machines, Don Oxley, chairman of the plant suggestion committee, said yesterday.

The plant operates an employee suggestion system. War bonds are awarded those workers whose suggestions are judged valuable to speed up production of the medium bomber.

Oxley said women workers have been stepping out along with the men in presenting their ideas for improvements since the plant's suggestion system was started about a year ago. Women make up a sizeable portion of the 732 usuable employee suggestions which have been adopted out of a total of 5,449 ideas submitted.

The six Kansas City, Kansas women pictured above are among the many employees at the North American Aviation plant who have won awards for suggestions which have improved and expedited the procedure of getting Billy Mitchell bombers off the lines and into the air headed toward the battle fronts.

1. Miss Wilma Dutton is shown here at her work as a clerk in one of the mechanical departments. A fromer school teacher, Miss Dutton was awarded $25 in War Bonds by the plant suggestion committee for her suggestion that clerks be given instruction in the company wage policies in order that they be better able to assist their bosses. Her home is at 799 North Thirty-second.

2. A mother of four, Mrs. Abiie Rash, of 427 Southwest boulevard, is another who has won War bond prizes for suggestions to improve production processes. Mrs. Rash was at her job at the aircraft factory only a short time before two of her six ideas for improvement ha brought $20 in prizes.

3. Miss Darline Davies, 20 North Tenth, a former sales clerk, split $20 in War Bonds with another employee for a suggestion regarding an improved method of removing solder from gas cap flanges and adapters.

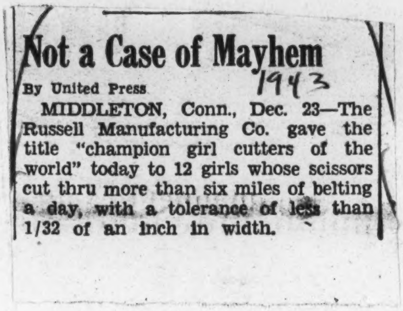
4. A former housekeeper who took a war job at North American, Mrs. Edna Glunt has won an award of $12.50 in War Bonds from the plant suggestion committee for her suggestion of a method for color coating electric terminals for purposes of identification. Mrs. Glunt lives at 1350 Rowland.

✓ 5. Shown demonstrating the working of her adopted suggestion, Mrs. Alice Kistler of Forty-eighth and Oakland. She is the mother of two, and a former assistant manager of a five and ten cent store. Mrs. Kistler suggested that a bar be used to hold apart the two sections of a particular sub-assembly of the airframe while the pieces are being riveted together. Prior to the adoption of the suggestion the operation sometimes had to be performed over again because riveting could cause the sides of the parts to collapse under the pressure of riveting. Mrs. Kistler was awarded $35 in War Bonds for the idea.

6. Miss Anastasia Sutulovich, a former hairdresser and sewing machine operator, had a idea for improving templates used in engraving work and was awarded a $20 prize by the compa for the suggestion.

These are merely samples of how war plants have proved an "open sesame" to feminine ingenuity.

AWARDS. Wash. News. Dec. 23, 1943.



# Not a Case of Mayhem

1943

By United Press

MIDDLETON, Conn., Dec. 23—The Russell Manufacturing Co. gave the title "champion girl cutters of the world" today to 12 girls whose scissors cut thru more than six miles of belting a day, with a tolerance of less than 1/32 of an inch in width.

NAVY DEPARTMENT

IMMEDIATE RELEASE
PRESS AND RADIO

DECEMBER 28, 1943

## WOMAN DESIGNS DEVICE FOR REPAIRING AIRCRAFT INSTRUMENT ROTORS

A former seamstress and receptionist who first went into the factory only seven months ago is the originator of a device that saves more than 3,000 man-hours a year in repairing delicate aircraft instruments at the Naval Air Station, San Diego, California.

She is Mrs. Mary Blakeney, 3520 Ibis Street, San Diego, California. For her contribution, she was awarded $150, the second largest sum to be given at the San Diego Air Station under the Navy Department's program of Beneficial Awards to Civil Employees.

Her device is a tool for righting the balance of rotors of the instrument which shows a pilot whether or not his plane is in level flight.

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Blord

From THE CAREER FRONT NEWS
GLAMOUR, Jan. 1944

Machine designer is a title that would have meant little or nothing to Marion Brand a few years back. At that time she was desighing church windows, making marionettes, and painting displays for the New York World's Fair, among other things. She'd studied and worked extensively in the fine arts.

Now she's all aglow with the fascination of making the wheels go round at the Western Electric Company in Kearny, New Jersey. To turn her talents toward winning the war she took a government sponsored engineering course, graduated right into her vital industrial job. She's ecstatic about the mechanical wonders of a factory, and thinks every woman who can should take advantage of the war-born chance to enter this exciting realm.

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Labor-Management News, Feb. 26, 1944.

With a housewife's ingenuity, Hazel Porterfield at Douglas designed the thimble screwdriver, enlarged in the right-hand upper corner of the photograph above, and highly useful for bench and assembly work done with the bare hand. For it she won an Honorable Mention this week.

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Labor-Management News, Feb. 26, 1944.

The First Lady congratulated gear inspector Martha Carlson, the first woman in the entire war production area to be honored by a national WPB award. She suggested an efficient manufacturing shortcut in building Packard PT-boat engines. Mrs. Roosevelt also met Bernice Palmer, a widow with a 14-year old son, whose eight production speeding ideas have earned her top honors in total suggestions submitted by a Packard woman worker.

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DIVISION OF
PRESS INTELLIGENCE
O.W.I.
1194 - Soc. Sec. Bldg.

PH. ____________

SY. L

Sun (ID)
Baltimore, Md

DATE JAN 24 1944

# Girl's Inventiveness Turns From Dishes To Radio Tools

When Miss Virginia Thieme was directing kitchen help in the preparation of new dishes to tickle the palates of Central Pennsylvanians a couple of years ago, she had no idea that her penchant for improvement of things at hand would develop into something akin to inventive talent and become a material aid to the nation's war effort.

After she was graduated from the New Cumberland (Pa.) High School eight years ago, at the age of 17 years, Miss Thieme could have followed her friends into clerical jobs.

**Started Restaurant In York**

Instead she went into debt and started a restaurant in York, Pa. Unusual as that was for a girl of her age, it wasn't enough. She started another one in the same town and still another in Harrisburg. She has a partnership in a fourth eating establishment.

But when the Japanese attacked Pearl Harbor and the news began to trickle back about its effects on boys from New Cumberland, York and Harrisburg, directing the serving of the hungry customers began to seem prosaic.

MISS VIRGINIA THIEME

Three months later, she enrolled in a Bendix radio training school. Now she is an assistant supervisor on the assembly line at the Bendix plant in Towson, with a rapidly growing reputation as a designer of minor tools and maker of workable suggestions.

Her observations and thoughts have won her three cash awards and eight or nine others are pending. Her suggestions leading to more efficient production methods have won the praise of Bendix engineers. They list these:

Long-nosed pliers with both gripping teeth and a cutting edge to eliminate several motions in grabbing and clipping a wire that is to be soldered.

A double-edged plastic wrench to avoid marring of highly polished tubes in joining operations.

A partially completed jig to protect taps and tugs on transformers during varnishing, thus permitting the use of spray guns.

Iron loops over the hand-holds on hand trucks to protect the hands of workmen.

Miss Thieme, who lives at 7301 York road, says she has no intention of going back to the restaurant business after the war.

"I've just scratched the surface in this production business," she said.

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PH. ____________

SY. L

Herald Tribune (IR)
New York, N. Y.

DATE JAN 25 1944
p.

## Womans' Output Idea Wins

SCHENECTADY, N. Y., Jan. 24 (AP).—A woman—Mrs. Edith Hogan, of West Lynn, Mass.—walked off with the highest single award of $1,250 for production ideas submitted in 1943 by employees of the General Electric Company. Mrs. Hogan suggested marking instrument dials mechanically rather than by hand, creating a saving of 400 "woman-hours" a week, the company reported today.

# SUGGESTION CONTEST AWARDS

Review of the suggestions turned in during November and December has just been completed, and the results indicate both the desire to help in the war effort by speeding up production, and ingenuity on the part of our Fairchild fellow-workers.

While the number of suggestions submitted during the past few months is not as great as in the early days of the contest, the ratio of acceptable ones is much higher, showing that more thought and effort are being given to your ideas.

Leading with his suggestion for an improvement in the manufacture of the sextant, Arthur J. Selander, Experimental Department, won $50.00 as a reward for saving space, time and material.

Stephen Ferraro, Final Assembly, who has turned in four winning suggestions since the beginning of the contest, came through with three more for which he won two awards for $5.00 and one for $10.00. All three suggestions covered ideas for improving certain operations on the engraving machine.

Another regular contributor of ideas is Frank Postorino, Lathe Department, and he did not fall short this time for he won an award of $5.00 for his suggestion of a spacer to be placed in position when a tool has to be sharpened.

Virginia Berg, Optical Department, received an award of $20.00 for her application of a practical idea for cleaning the bubble chamber lenses in acid and rinsing with water. The method devised of using trays for this work eliminates the necessity of handling each lens separately with forceps.

Two suggestions were turned in by Vincent Capicotta, N. Y. Routing Department: the idea of a chart to be used by all routing stations, and possibly by the production departments, and the suggestion that a general inspection of the material storeroom be made at regular intervals to do away with all obsolete part numbers, see that they are all recorded and to check for correct numbers.

Also winning two awards of $5.00 each, Joe Austin, Treo Assembly, with his suggestions for the change in wiring of the intervolometer and for a suggestion for the health committee in connection with plant conditions, showed real interest.

Vernon Lindblom, Treo, won awards of $10.00 and $15.00 for improvements in the method of manufacturing focal plane shutters on one of our cameras.

An award of $20.00 was given to William Kluger, Planning Department, N. Y., for his suggestion for a fixture to be used in tapping holes in three of our parts, preventing the tap from breaking out at the corners of the part, also increasing production.

Centering more easily the grinding wheel in the process of grinding hobs for sharpening purposes was thought through by Thomas G. Piazza, Hobbing Department, who received $15.00 for this idea.

Suggestion of a guide for broaching which will save time and effort netted Joseph Porreca, Shutterleaf Assembly Department, $15.00 also.

Fred Little won $15.00 for his suggestion for a clamp for an air hose nozzle which contributes to the safety of the operator.

An idea for a wrench for the in-

(*Continued on Page* 13)

Photos by Messner

**The Winnah! Left, Arthur J. Selander, Experimental, who won $50.00 as a reward for his suggestion in connection with the improvement of the sextant. Right, Virginia Berg, who won $20.00 for her idea for improving an operation on her own job.**

## TEXAS HOUSEWIFE WINS HIGHEST SUGGESTION AWARD

War Dept. Public Relations Bureau
Feb 4 - 1944 - Release

Prediction made early in the war by William H. Kushnick, Director of Civilian Personnel and Training for the Secretary of War that skills acquired by housewives in their domestic projects could be transferred successfully to the production of war materiel has been substantiated by the Army's vast stores of firepower. But no one forecast that these war working recruits would originate ideas for improving techniques, reducing paper forms, and eliminating out moded operations that would save taxpayers annually thousands of dollars.

The most recent example of this is Mrs. Pearl E. Schulte, civilian employee at Fort Bliss, Texas, who has been awarded the highest amount, $250, possible by the Local Suggestion Committee and who has been recommended for an additional monetary recognition by the War Department Board of Awards in Washington, D. C.

Mrs. Schulte suggested that a master chart on costs be set up to use for administrative procedures in estimating the costs on repairs and conservation of tires. The suggestion is now saving Fort Bliss $20,000 a year and has been adopted throughout the Eighth Service Command--which includes New Mexico, Oklahoma, Texas, Arkansas, and Louisana. If the Army's other eight service commands follow suit, the total savings will be staggering as the idea saves 75 per cent of the man hours which would be required to compute these costs on each order.

The chart designed by Mrs. Schulte shows the cost of each probable combination of repairs on each size tire listed in the Negotiated Contract for tire repair in the Service Command district. No technical knowledge is required for reading the chart and the chance for error is eliminated since the computation is already made on it.

A native of Osborne County, Kansas, a resident of El Paso since 1938, an employee at Fort Bliss since March, 1942, Mrs. Schulte has a husband overseas as a civilian employee of the Navy and a seven year old daughter who likes best the dresses her mother sews for her wearing.

The fact that tires returned from overseas, especially from Alaska where materiel was sent two years ago when a Japanese invasion appeared imminent, are being classified for repair, reuse, or scrapping makes such a chart especially important at this time. The Army Service Forces has set up five reclamation centers to expedite the flow of such equipment to points where needed.

Labor-Management News, Feb. 12, 1944

## GOODYEAR WORKERS LEAD LIST HONORING SCORE OF THINKERS

Of the 20, whose ideas were culled from a great pile submitted by various Labor-Management Committees to the Board of Individual Awards in Washington, five won certificates for outstanding suggestions. Among the outstanding ideas were two submitted by a trio of women who applied to their jobs the housewife's age-old talent for cutting corners and lightening her load of work.

Men may laugh at the way women wire things together with hair-pins but out at Goodyear Aircraft Corp. of Akron, Ohio, a couple of girls laughed last and best with a production boosting idea adapted from the feminine hair-do.

And it was so good the Labor-Management Committee sent it on to Washington, where it won two certificates for Rosemary Olenick and Alice Colletta.

It all began on the assembly line where women got weary of stretching airplane fabric laboriously by hand before "doping it." To make bad matters worse, the fabric crinkled along the edge during the doping, making a lot of extra labor to undo the damage and smooth things out.

To the two women the hand labor seemed an anachronism in an era of machines. They thought about it a while and then popped up with a modification of the roll-up type of hair curler.

In this case, however, the the rollers act to remove the wave instead of putting it in.

In a nutshell, their machine substitutes for the stretching by hand the inadequate "T" pins clamping down the fabric, some steel rods which both twist and cover on tight and serve as clamps during the "doping" process.

The lone woman ~~woman~~ among the 15 winners of Honorable Mention this week, 10 of whom put Goodyear Aircraft at the head of the list of companies, is an Atlas Powder Co. forelady of great ingenuity.

Millie Crawford, the forelady in Apco, O., powder plant, compressed two operations into one with an ingenious punch apparatus so that with one motion a worker can both insert and tamp down the highly vital cushion in the detonator cavity of explosive weapons.

Her idea multiplies output, saving eight man-hours a shift, or annually about 2,496 man-hours, equal to $1,685.

DIVISION OF
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PH.________________

SY. L

Tribune (I)
Tulsa, Okla.

DATE FEB 15 1944

ON THE ASSEMBLY LINE

# *Women Workers at Douglas Are More Ingenious Than Men*

The female of the species may be more deadly than the male, but she also is more ingenious, the Douglas Aircraft Co. Airview News indicated today.

Women were among the top winners of plant suggestion awards during the past mark. Three of the five "A" awards went to members of the fair sex. They were:

Virginia Smith and Clerca Newsom, instruments department, and Vita Richardson, extrusions.

**Virginia and Clerca collaborated in devising an oxygen panel testing bench which eliminates former haphazard methods and increases the number of units which can be tested at one time.**

**Vita devised a roll form block holder for sheet stock which prevents material spoilage. Collaborating with her was R. J. Barker, also of the extrusions department.**

The other male winner last month was W. L. Lyons, engineering, who devised a system of installations on B-24 bombers which saves much time and material.

* * *

Prominently displayed on the front page of the Airview News this week was a story from Texas, so the only deduction possible is that it was intended as a hint to Tulsa employes.

"Falsification of time cards caused seven employes of a Texas aircraft factory to be given jail sentences ranging up to six months," the story said. "The seven defendants, four of them women, were sentenced in court for conspiracy to defraud the government."

* * *

**First winner in the month-long safety slogan contest was revealed today to be H. W. Addington, of the jigs and fixture fabrication department, who submitted the slogan:**

**"Safety will turn our plans into planes."**

**Second prize went to F. B. Hoskins, machine shop, for a jingle: "Practice safety, produce more; insure victory for '44."**

**Prizes of war stamps are given for winning slogans, and the monthly winners can compete for a war bond in the final contest.**

* * *

Douglas employes' drive for $1,500,000 in war bonds during the fourth bond drive was lagging badly, with less than two-thirds of the total subscribed as the week closed. An additional $519,460 in bonds must be sold by the end of the drive.

The aircraft company is launching a determined campaign to reduce carelessness among employes using expensive cutting tools. It was disclosed that during the first 10 days of the new year, 2,776 tools, worth $1,519, were destroyed by employes through carelessness.

Biggest casualty were drills, of which 2,323 were broken.

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O.W.I.
1194 - Soc. Sec. Bldg.

PH.________________

SY. L

Dispatch -Herald (I)
Erie, Penn.

DATE
p. FEB 20 1944

# They Submit Many Top Suggestions

Women war workers as well as men turned in top production ideas during 1943 at General Electric plants, and were well represented in the leading awards, the company announced today. The year's awards for accepted manufacturing suggestions were 47 per cent above the previous year's alltime G.E. high.

Women employes, many of them new in industry, added to the total of ideas. During 1943 the company accepted 23,841 as against 16,204 for 1942. The amount paid suggestors last year was $276,760 against $158,943 for the previous year, highest totals since the G.E. suggestion system was established in 1906.

### $1,300 for 5 Ideas

Anthony Szot of the Schenectady plant piled up five awards for a total of $1,300, but Mrs. Edith Hogan of the West Lynn (Mass.) plant received the highest single award, $1,250. She suggested marking instrument dials mechanically rather than by hand, saving 400 "woman hours" a week. His ideas improve machining of end pieces for small motors. His largest award, $600, was for reducing four operations to one in machining various models. He received $400 for eliminating a roughing operation and smaller awards for similar ideas.

Raymond R. Stoller received $1,100—the largest award ever made at the Fort Wayne (Ind.) plant—for a suggestion which saves vital supercharger parts. Sometimes during drilling, a bit becomes lodged in a part, so he suggested welding a rod to the bit and pulling it out by the rod, thus saving the part.

### Suggestion Pays $1,000

Only a year after Benjamin Prindle went to work at the Pittsfield (Mass.) plant he received $1,000 for suggesting the use of a finishing machine to speed up gear-shaping production. The award is the highest at the Pittsfield plant in 10 years. The same amount went to Michael A. Osborne of the West Lynn (Mass.) plant. He replaced two tools with one on his machine and now 15 man-hours a week as well as materials are saved in screw production.

production. The award is the highest at the Pittsfield plant in 10 years. The same amount went to Michael A. Osborne of the West Lynn (Mass.) plant. He replaced two tools with one on his machine and now 15 man-hours a week as well as materials are saved in screw production.

Walter Woodbury received $1,000 for suggesting a method of re-using skids on which power equipment is shipped, thus saving hundreds of man-hours and quantities of lumber. Stephen Harasen was awarded $730 for devising a fixture which facilitates machining of aircraft parts. Both men worked at the River plant, West Lynn, and are now in the army.

Mrs. Anna Turnbull received $900 for suggesting that cotton wrappings on military communications devices be burnt off rather than scissored off. Miss Eva Dragan was awarded $650 for suggesting that a plaster of paris and whiting powder filler used in fuses for electronic applications be eliminated. The suggestion saves approximately one-half minute in assembling each fuse. Both are at the Bridgeport (Conn.) plant.

### Collects $580

Miss Marcella Ginkus of the River plant, West Lynn, received $580. She proposed that file numbers of drawings containing complete information be substituted for long lists of spare parts in typing shipping memos. The suggestion saves hours of typing as well as quantities of paper and postage.

Miss Lorena Reppert and Mrs. Mary Case of the Fort Wayne (Ind.) plant each received $450 for suggestions dealing with aircraft parts. Together the suggestions, which bring improvements in the process of winding rotating elements for small motors, saves approximately 18,000 "women hours" a year.

Miss Nancy Mollica had never seen a machine tool before she came to the Philadelphia plant in 1942 to become the first girl to operate a gear hobbing machine there. But she caught on quickly; less than a year later she suggested a fixture by which six segments instead of three could be machined at a time. Her award of $400 is the highest ever made at the plant.

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## SUGGESTION AWARDS

Tucson Liberator. March 4, 1944.,p.1

M.M. Kohlhoff was awarded $6 for her suggestion for a jig to locate accurately a part of the antenna mast installation. Her suggestion will save an estimated 183 man-hours annually.

## WOMEN AT WAR

Tucson Liberator. March 4, 1944, p. 4.

Mrs. Margaret Kohlhoff started preparing herself to work on B-24 Liberator bombers back in her high school days, although at that time she didn't realize it.

In those days, when women just didn't attend manual training and shop classes, she demanded that kind of training and got it...much to the consternation of a St. Paul, Minn. high school faculty and student body.

Today she is one of the top women workers in Final Major Installation and bubbles over with enthusiasm for her job and Convair. "I've received every consideration and courtesy from my foremen and I certainly can't complain," she said.

A desire to help out in the war effort and a natural inclination for mechanical work, brought Mrs. Hohlhoff to Convair on March 8, 1943. She worked in sub-assembly for a while and also did a stretch on the Swing Shift. She is the mother of 3 children.

KB

Labor-Management News, March 11, 1944., p. 6.

Idea Allows Woman to do a Man's Job.

The fathometer ring grinder suggested by Alba E. Bullock at Marinship accomplishes almost automatically a task which experienced grinders have done by dint of much tedious overhead work.

A fathometer ring must be even with the ship's hull or else ripples will be caused which interfere with the accuracy of the instrument. By thrusting a shaft through the ring a grinding wheel is easily manipulated above by a woman worker within the hull.

From U. S. Labor Press Service
March 20, 1944.

## SEVEN WOMEN WAR WORKERS HONORED

Washington -- When Mrs. Elizabeth Kennedy, worker at the Titeflex Metal Hose Co., Newark, N.J., found a chance to look up from her work during her first morning on the job, she discovered a plaque above her bench reading: "This place belongs to W. Kennedy who is now serving with the armed forces. THE TIME YOU WASTE will determine whether or not he will return. Not until a neighbor pointed out that the plaque bore the same name as her own did she realize she had literally taken the place of her son, now an ensign in the Navy.

Mrs. Kennedy is one of seven women war workers who were honored for their work on the production line and on Labor-Management Production Committees during the first National Labor-Management Production Exposition, sponsored by the War Production Board. In addition to Mrs. Kennedy, now an inspector and shop stewardess at Titeflex where workers belong to UAW-CIO, the groups included: two shipyard welders--Miss Cora Lee Clounts, Kaiser Shipyards, Richmond, Calif., amd Mrs. Edna Slocum, Moore Drydock Co., Oakland, Calif.--who vied for the title of "welding queen of the West Coast"; Miss Mary Shade, who holds the unusual job of "setter" on the log carriage in a lumbermill, at the White River Lumber co., Enumclaw, Washington.: Mrs. Anne Maurer, one of the four women labor-management committee members at the General Instrument corp., Elizabeth, N.J.; Mrs. Roby Gardner, treasurer of the first war plant "Grnadmothers' Club", from Manning Maxwell and Moore, Inc., Bridgeport, Conn., and Miss Anna Weihe, voted the "ideal worker" at the Reliance Mfg. Co., Columbus, Ind. where she has been employed for 26 years.

Mrs. Slocum, who wrested the title of welding queen from Miss Clounts by a few points, was sent to Washington by the AFL Metal Trades Council. Both companies had agreed that employees of the losing yard would donate 1,000 pints of blood. But workers at Moore Drydock Co., the winning yard, not to be ourdone, matched the Kaiser yard pint for pint. Workers at both yards are affiliated with AFL Metal Trades Council.

Mrs. Maurer was selected to visit Washington by vote of the labor members of her labor-management production committee, who belong to Local B-921, International Brotherhood of Electrical Workers, AFL.

Miss Shade earned the title "Magazine Cover Girl of 1944" when her photograph in working togs was used on the cover of The Timberman. Labor representatives of the L-M committee at the White River Lumber Co. belonging to International Woodworkers of America, CIO.

At a luncheon in their honor given by the National Women's Press Club, the seven women heard Charles E. Wilson, executive vice-chairman of WPB, and T.K.Quinn, Director, WPB, praise the work of women in the war. Wilson said that without the aid of women workers this country never would have produced the record total of weapons and supplies needed in the war.

"If the women stopped producing tomorrow, America might have to withdraw from the conflict," he said.

Among guests at the luncheon were Secretary of Labor Frances Perkins; Rear Admiral Emory S. Land, Chairman, U. S. Maritime Commission; Lady Halifax, wife of the British ambassador; Lt. Col. Keith Morgan of the Industrial Service Division of the War Department; and Representatives Mary Norton, N.J., Margaret Smith, Maine, and Frances Bolton, Ohio.

In the morning, the women received certificates in recognition of their work from W. Ellison Chalmers, chief of staff of WPB's War Production Drive. They also were paid tributes by four officers of the women's armed services, who cited the relationship between women in uniform and women in overalls. "Both are doing an important job for the war," said Major Anne Alinder of the WAC.

Commander Helen Sleman of the U. S. Coast Guard Reserve summarized the reasons why women who have taken jobs in war plants are to be commended.

"They haven't waited for the jobs to come to them," she said. "They haven't believed that jobs were too boring or too monotonous. They haven't excused themselves by saying 'I and already busy doing volunteer war work'. They have managed the responsibilities of home and family and a full-time job."

From THE CONSOLIDATED NEWS
March 23, 1944

## SUGGESTION WINS $60 FOR WOMAN IN UPHOLSTERY

Mary B. Nelson, Upholstery Dept. 244, was awarded $60 for changing a process for sewing bombardiers' safety slings. By her plan, strap thickness is eliminated; the strap is looped through the buckle once instead of three times. The new process not only saves time and material, but also minimizes a safety hazard incurred when needles break, which they frequently do while being forced through the thicker material.

U. S. Labor Press Service
April 17, 1944.

## WOMAN GIVEN HIGHEST CIVILIAN AWARD

Pine Bluff, Ark. — Mrs. Annie Marie Young, a 40-year old munitions laborer in the production division of the Pine Bluff Chemical Warfare Arsenal, has become the first woman to receive the War Department's highest civilian award for exceptional service. The citation was given in recognition of bravery in twice savingfellow workers from burning to death.

The Award of Emblem for Exceptiomal Civilian Service, which is the civilian equivalent of the Distinguished Service Medal, was presented by Brig. Gen. A.M. Prentiss in behalf of the Secretary of War.

On two occasions--October 13 and November 16, 1943--fire broke out in the plant's incendiary section near where Mrs. Young was working. Although the flames in no way threatened the area in which she was working, Mrs. Young entered the burning area and dragged out two workers whose clothes were enveloped in flames, throwing them on the ground and beating out the flames with her bare hands. Her calm judgment and presence of mind inspired other workers to assist her in the rescue work, the War Department reported.

In the citation accompanying the award, Mrs. Young was praised for her " "exceptional conduct in performance of outstanding service beyond the call of duty" in the two fires.

Mrs. Young, who is a Negro, began work at the arsenal on July 9, 1943.

May 4

Mary Cannon --

I've finally written up the material you wanted to send to S.A. on ingenious suggestions made by women, most of whom had done only housework or related work. This is probably too long for your purposes, but it can be easily cut. Two of the instances are ones used in the Methodist speech (I've put check marks by these.)

I'd like your suggestions on this, and any ideas in wording you have that would be better for S.A. consumption, before I send it in to Editorial for checking. [illegible] Where women were given cash awards I mentioned this -- for your purposes you may prefer that this be left out.

Kathryn Blood

Rec'd - May 11 '44

WAR PRODUCTION DRIVE HEADQUARTERS

Washington, D. C.

# How To Organize and Operate A Labor-Management Production Committee

The following statement of policy and procedure has been approved by three divisions of the War Production Board--War Production Drive Headquarters, the Office of Labor Production, and the Management Consultant Division. It is available to the Regional Drive Representatives, Regional Labor Representatives, and Regional Management Consultants. Parts of this statement have already been printed in the Labor-Management News and other publications. Additional copies of this full report can be secured from War Production Drive Headquarters, Washington, D. C.

# THE LABOR-MANAGEMENT PRODUCTION COMMITTEE

A Labor-Management Production Committee is a new adventure in human relations. Management and workers sit down together to discuss ways of increasing war production. They emphasize points of agreement, not matters of difference. Collective bargaining issues are avoided in this Committee. They are noted only for the purpose of recognizing them and referring them to the regular collective bargaining machinery, if such exists. Experience has shown that the Production Committees can and do work harmoniously in their common concern for the war program.

When a Committee is first proposed, however, it is natural for one or both sides to pull back. Management considers production a job for management. In its view the works manager and the engineers are paid to handle planning and methods of work. They may question whether employees or organized labor have anything to add. Or they may feel that such a Committee will interfere with management's responsibility for making decisions on production problems. On the other hand labor may fear that the Production Committee is a device to obtain unfair concessions from labor under the guise of patriotism or to detract from the bargaining machinery already established. Perhaps no such doubts exist but there is uncertainty as to what activities shall be included in the Committee's work or how the respective representatives shall be chosen.

In reply to doubts expressed by management and labor there is the One Hundred Industrialists' Report (published by War Production Drive Headquarters) typical of the experience of many hundreds besides themselves; there are also the endorsements of William Green of the American Federation of Labor, Philip Murray, of the Congress of Industrial Organization, Eric Johnston of the United States Chamber of Commerce and Frederick C. Crawford of the National Accociation of Manufacturers.

Before a final decision to form a Committee is made, one or two preliminary meetings are usually helpful. First might come an exploratory meeting between labor and management at which the purposes of the Labor-Management Production Committee are discussed. It has been found that Committees are likely to be more successful if, at these preliminary meetings, there is frank and full discussion of the following general principles:

1. Labor and management will work together to increase and improve war production.

2. The program to be developed will enlist the full cooperation of labor without in any way modifying the responsibilites of management.

3. Grievances and collective bargaining matters will not be handled by the joint production committee, but will be referred to collective bargaining or other established machinery.

4. Top management will be represented on the committee to get decisions authoritatively and promptly.

5. Labor members will be responsible leaders, able to secure the fullest participation of the workers in the program developed by the committee.

6. All activities will be undertaken jointly.

If there is a recognized labor union, its representatives will want time to discuss the plans within their executive board or membership meeting. Similarly company officials will want to consider what adjustments must be made and what will be required of their supervisory force. Then the two groups may get together again to decide further details such as how many members shall be chosen and the date for a first regular meeting.

## THE COMMITTEE ORGANIZES

At the beginning both management and labor find it necessary to give time to the selection of members and to the discussion of ways to run the Committee.

### Planning the Size of the Committee

A great number of Committees have from three to five members each from management and labor. The size of the Committee depends somewhat on the size of the plant, mill or shipyard. Certain departments must surely be represented, also certain labor organizations. Some Committees like to provide for representation from each shift. If it is necessary to have a committee of sixteen or twenty, such Committees often have a steering committee of about six persons who meet frequently and carry-out policies agreed upon by the larger group.

### Choosing the members

In a plant, mine, shipyard, or lumber camp in which no union represents the employees any method satisfactory to the workers is devised for the selection of labor representatives. Possibly departments have already found a democratic way of choosing persons from their group to conduct various war activities. Where the employees are represented by a recognized collective bargaining agent, that organization arranges for the choice of the labor representatives on the Labor-Management Production Committee. The representatives of management are of course chosen by management.

What type of person is needed on the Labor-Management Production Committee? Successful committees have demonstrated that someone from top management should be a member. By sitting in committee meegings he hears the direct comments from workers and from supervisory officials, and becomes convinced of what needs to be done. By being there he can agree to immediate action, if advisable, and the Committee need not grow impatient over delays in getting management's approval. If no such person can find the time to be a member, or perhaps to come regularly, the one whom he selects in his place should have considerable authority. Such representative should make a habit of referring promptly the items that require top management decision, and of expediting those decisions.

From management also the person responsible for production planning -- the chief engineer, works manager, or other appropriate person -- should be on the committee, to help it accomplish fully its purpose of improving production. The industrial relations director or personnel manager, can also help in the work of the committee. A public relations or advertising man often does a lot in suggesting forceful ways of getting the message of the committee to all employees and to the community. A shop superintendent or foreman helps keep the committee "down to earth" with his practical day to day knowledge of shop problems. Management representatives are usually the kind that have learned the value of getting men and women to "work with you" and not "for you".

From labor's side a responsible union officer (if there is a recognized collective bargaining agency) can speed the work of the committee just as top management does. He knows union policy, and his say-so may reduce the number of times when the labor members will want or need to talk things over before a plan goes ahead. Experience has shown that, in many instances, it is advisable to have a representative from the bargaining committee on the joint Production Committee. In seeking to keep separate the bargaining and production activities, many committees functioned without any one from the bargaining group. The presence of a labor member and a management member, either from the bargaining committee or familiar with the situation, can help keep the committee form getting into such matters before it recognizes that the time has come to refer the issue to the bargaining machinery.

The labor members, just as management members, should be seasoned men who know production and are interested in its problems. Men who get around the plant because of their job, and have the confidence of the workers, make good committee members. It is well if they know how to express themselves, but there is no need for "speech makers".

It is not enough to say that the union will determine the method of selecting the labor members, in plants where there is a recognized collective bargaining agency. What about two or more unions -- recognized collective bargaining agents? At some companies several thousand production workers are represented by one union and several hundred craftsmen, or less, are represented by another union. In such instances one member of the committee can be chosen by the craft union and four or five come from the production workers local. One shipyard employs so many crafts that groups of two or three craft unions have selected one man to represent a group on the top committee instead of each union. These various combinations of unions in one company sometimes cover organizations in both the American Federation of Labor and the Congress of Industrial Organizations. But they have worked together effectively on these Labor-Management Production Committees in harmonious effort to further production.

With women entering industry in increasing numbers, more and more Committees are providing for the selection of women Committee members. Similarly Negroes have special problems which frequently make it important for them to be on committees and they too are included as representatives.

Some committees have already made provision for new and unexpired terms of committee members. A term of office for six months or a year is desirable. Some committees arrange for membership rotation every four months during the first year, until it is determined what persons are most effective in this work. When a new collective bargaining agent is chosen, the committee is reorganized in accordance with the provision that the labor members are chosen by the recognized collective bargaining agency.

## Selecting Officers

Most committees have a chairman and a secretary. Many have co-chairmen, a labor member and a management member alternating every month or so. The chairman should be a good presiding officer and one who steers business efficiently and with understanding.

Sometimes the vice-chairman or the secretary is a labor member if the chairman is a management member, and vice versa. Many Committees have a labor chairman or secretary who heads up the labor members of the Committee in case they want to discuss a problem separately and work out ways of getting the opinions of the workers.

No formal voting for officers is necessary. Probably management and labor representatives have come to the meeting prepared to make suggestions and to decide on officers by general agreement.

An executive secretary for a Committee in large plants helps to make the Committee's work efficeient. He is usually employed full time by the company to do the job, this by agreement with the labor members. He is not a member of the Committee. Sometimes it takes time to select such a person. He should be a man who wins confidence throughout the plant. Some Committees have selected an employee of the company who is also an officer of the union local. Other Committees have selected a man from the industrial relations department, the methods department, or the public relations department of the company.

## Voting in Committee

Emphasis is laid on having an equal number of management members and labor members because of the need for sharing ideas and points of view. Committees do not usually work well if there is an atmosphere of labor, in larger numbers, presenting requests to one or two management representatives - or of management informing one or two labor men what the program is. On the other hand, few Committees bring issues to a vote. A problem is discussed and a "sense of the meeting" is arrived at. It should not be a labor versus management issue, but rather"what is best for production"? As one Committee put it: "We have found that the members lined up according to their beliefs rather than according to whom they represent." By common agreement certain matters are considered a joint responsibility. Others the Committee merely discusses and then makes proposals concerning them to management.

## Time and Place

The place of meeting is not as important as is the right attitude and spirit. Many companies have conference rooms. Whether the meeting is held in the room of the Board of Directors or in a corner of the foundry is less important than an informal atmosphere and seating arrangements which do not line up labor and management on opposite sides.

The time of meeting is harder to arrange. Most Committees meet during working hours. Two o'clock in the afternoon is often chosen. Some meet in the evening, or late afternoon. If there is need to accommodate men from more than one shift they meet towards the end of one shift and the beginning of another. It is important to find a time when the top management member is able to be present regularly. If his conference with other important people cannot always be controlled, he can occasionally delegate power to someone representing him.

## Paying the bill

Meetings last from one to two hours. In most cases the company pays each man his normal rate. Management members are accustomed to meet on company time to take up production, sales, or finance situations. The Committee's activities, conduceted by both management and labor members are considered valuable enough to the company to warrant the time taken from production and the money paid for salaries and wages. This covers both committee meetings and the work of individual members who carry out the Committee's decisions.

## The Minutes of The Meeting

Most of the Committees record the minutes of their meetings. Some, with the aid of a company stenographer, have stenographic reports of every word spoken. In general, however, this is not considered necessary. The main points of discussion and the matters decided upon need to be recorded and distributed to Committee members in order to avoid confusion as to what has been decided upon. No matter who takes the minutes the secretary is responsible for thier final form. It has been found useful to distribute them, together with the proposed order of business, in advance of the next meeting. In a well run Committee the management members and the labor members plan ahead and tell the secretary what they wish to have discussed, so that sufficient notice can be distributed by the secretary.

## THE COMMITTEE PLANS ITS PROGRAM

Before the Committee is formed, preliminary discussions have covered the main purposes of its program. The Committee then must decide what comes first. Most Committees have carried on activities in one or more of the following subjects:

### Production

- Production problems
- An employee suggestion system
- Conservation of material & salvage
- Care of tools and equipment
- Improving quality and reducing rejections

### Manpower

- Absenteeism & turnover
- Safety
- Nutrition and health
- Upgrading and training
- Transportation and housing

### Informational Program

- Posters and bulletin boards
- A Labor-Management Drive Bulletin
- Leaflets for workers
- Slogan contests
- Motion pictures and transcriptions
- Plant rallies
- Bond drives

These activities are discussed in the Official Plan Book of the War Production Drive, which should be read in conjunction with this pamphlet. Guides on absenteeism and suggestions have already been issued by the Drive, and additional guides on tool conservation, production problems, and other subjects are in preparation. After Committee discussion of the above topics it may help to appoint a temporary subcommittee to survey the situation and report back recommendations as to what to emphasize at the start. The size of the plant has important bearing on the extent of activities to be undertaken.

Production

Probably the most important activity is the job of tackling production problems and improving plant efficiency. Nothing wins workers more successfully to all-out war production than the discovery that the Committee represents not a program to exact undue sacrifices but a sincere effort by Management and Labor members to improve situations throughout the plant that will result in better production. Discussion of these problems should also reassure management. As one international union instructs its members: "The authority to run the plant is in the hands of management. The union personnel of the councils (committees) should not try to assume these management functions. The councils become successful to the extent that management and labor can mutually draw on each other's experience knowledge, and information." While management has specialists in production planning and control, many a worker has a contribution to make in suggesting a better method here or there. The combined effect of a thousand minor improvements is equal to several major ideas from production specialists. Some of the subjects which may be considered are as follows:

STORES
(Includes receiving, stowing and records of stores and worked material)

ASSIGNMENT OF WORK
(Routing)

INCENTIVES - Non-Financial
(Production charts etc.)

MAINTENANCE
(Machines, tools, trucks)

INSPECTION CONTROL
(influencing Production)

LIGHTING

FATIGUE & MOTION STUDY

DESIGN

LAYOUT

It is also important for management to share information, as far as military securtiy permits, concerning cutbacks, changes in programs, reasons for material shortages. The schedule needs to be understood by the Committee members. If it cannot be discussed in detail throughout the plant, the members should be in close enough touch with their constituents on a number of matters so as to have their full confidence. If possible, measures of production should be found and charts put up to show the workers how they stand from day to day and month to month, and in relation to the quotas set.

Ideas for imporving production come both from Committee work and from individuals who think up better ways of doing their own job. In order to draw upon the ideas of all workers in a plant most committees have set up a suggestion system . The important features of a suggestion system in the War Production Drive are:

Five Main Principles
1. The ideas are for Uncle Sam.
2. The worker should be protected from loss of earnings resulting from his suggestion.
3. The suggestion system is run jointly by labor and management.
4. It has the full support of managment and supervision.
5. It has the full support of labor.

Ten Action Points
The Committee on Suggestions:
1. Stimulates suggestions.
2. Gathers suggestions, through personal contact or through suggestion boxes.
3. Arranges for technical assistance for the perfection of ideas.
4. Acknowledges suggestions.
5. Studies them carefully.
6. Secures prompt decisions.
7. Handles rejections tactfully.
8. Confers appropriate honors and cash rewards.
9. Follows up accepted suggestions until they are properly adopted.
10. Recommends best suggestions for national honors.

Some of the above activities are handled by a subcommittee and by special staff members. In many plants in which Labor-Management Production Committees have been organized, a suggestion system was already in existence. Reports show that the number and quality of suggestions from workers have often increased after a company suggestion system has been incorporated in the Drive by the joint Labor-Management Committee. If management has employed a competent man to run a suggestion system, he is more needed than ever to carry out the policies of the Committee and to perform the day to day responsibilities involved. The principal changes consist in choosing a way of gathering suggestions, acceptable to management and labor, in considering them and in making recommendations jointly for adoption, rejection, and for the awards through Labor-Management Committee action. (For full description of a joint Suggestion System see the Guide to Labor-Management Committees on Ways of Handling Suggestions)

Other activities affecting production, such as conservation, salvage, care of tools, and campaigns for improving quality of work, are undertaken as the Committee's work gets under way and additional projects can be undertaken.

Manpower

Increasing emphasis is laid on manpower as it becomes more and more difficult to secure enough workers to turn out war production. Labor-Management Committees have worked hard to keep every man and woman effectively on the job. Through individual interviews they have learned the causes of absenteeism, have worked to eliminate them and have taken effective action in the case of inexcusable absences. They have helped reduce turnover in much the same way.

They have made suggestions which have helped to make difficult or "dirty" jobs more attractive. Committees have aided also in upgrading and training probrams. They have investigated what positions might be opened to women and minority groups.

Before a Committee launches any part of a manpower program, just as in the case of a production program, it needs to talk over the problem and agree as to what activities are appropriate for Committee work. Because these problems sometimes overlap with grievances and collective bargaining matters, Committees will want to be careful not to interfere with the already established collective bargaining machinery. A well planned program of activities, properly assigned to the groups concerned, should be developed with the participation of the bargaining representatives of both labor and management.

## Informational Program

As the Official Plan Books says, "this War Production Effort is not a publicity campaign", but it does help production if informational methods are correctly used. Every worker needs to get the meaning of the little gadget he or she makes or inspects, where it fits and why it must be exactly right. Every one needs some help to lift his eyes from what he is making to the product which becomes weapons or equipment, from these supplies to the soldier who uses them, and from the individual soldier to the aims of the war in which he may be giving his life. Each poster, each issue of a Drive Bulletin, each rally should aim to draw these ideas together in a way to convince the soldier of production that he does not want to lose an opportunity to maintain and improve the output of his factory, mine, or shipyard.

The information program should be built around the plans of the top Committee and of subcommittees. It should aim to let all the workers know all the time what is going on and why.

## Appointment of Subcommittees

Many top War Production Drive Committees find that they have too much to do. Good suggestions come in but they haven't time to act on them. A bond drive bogs down because some details were neglected. So the Committee members come to the conclusion that part of the work must be delegated to subcommittees. A few subcommittees are appointed by the Committee when the Drive is organized. Here may be added, as the program develops. The members are chosen usually because of their interest and ability for the subject in question. The chairman, either a management or a labor respresentative according to the mutual choice of the main Committee members, may be a member of the top Committee, or merely report to it. The number of members on the subcommittee depends on the kind of job they have to do. There should be enough management members and labor members on these subcommittees to insure a sharing of responsibility and interest by both groups.

The first subcommittees to be appointed are likely to be one on production problems, another on conducting a suggestion system, a third on transportation, and a fourth on the information program. Others follow according to the subjects outlined above,as the needs of the Drive develop. Some Committees concentrate on special campaigns on a given problem, at a given time. It is better not to tackle too many jobs at once, even with the aid of subcommittees. Later, however, there will naturally come some temporary or standing committees on the topics listed above under the subjects of production, manpower, and information.

The duties of these subcommittees have been suggested above and are also outlined in the Official Plan Book. It is helpful if one member of the top Labor-Management Production Committee is responsible for keeping in touch with each subcommittee. It may be well also to have all the members of a subcommittee meet occasionally with the top Committee in order that they may understand their part in the program.

Department Committees

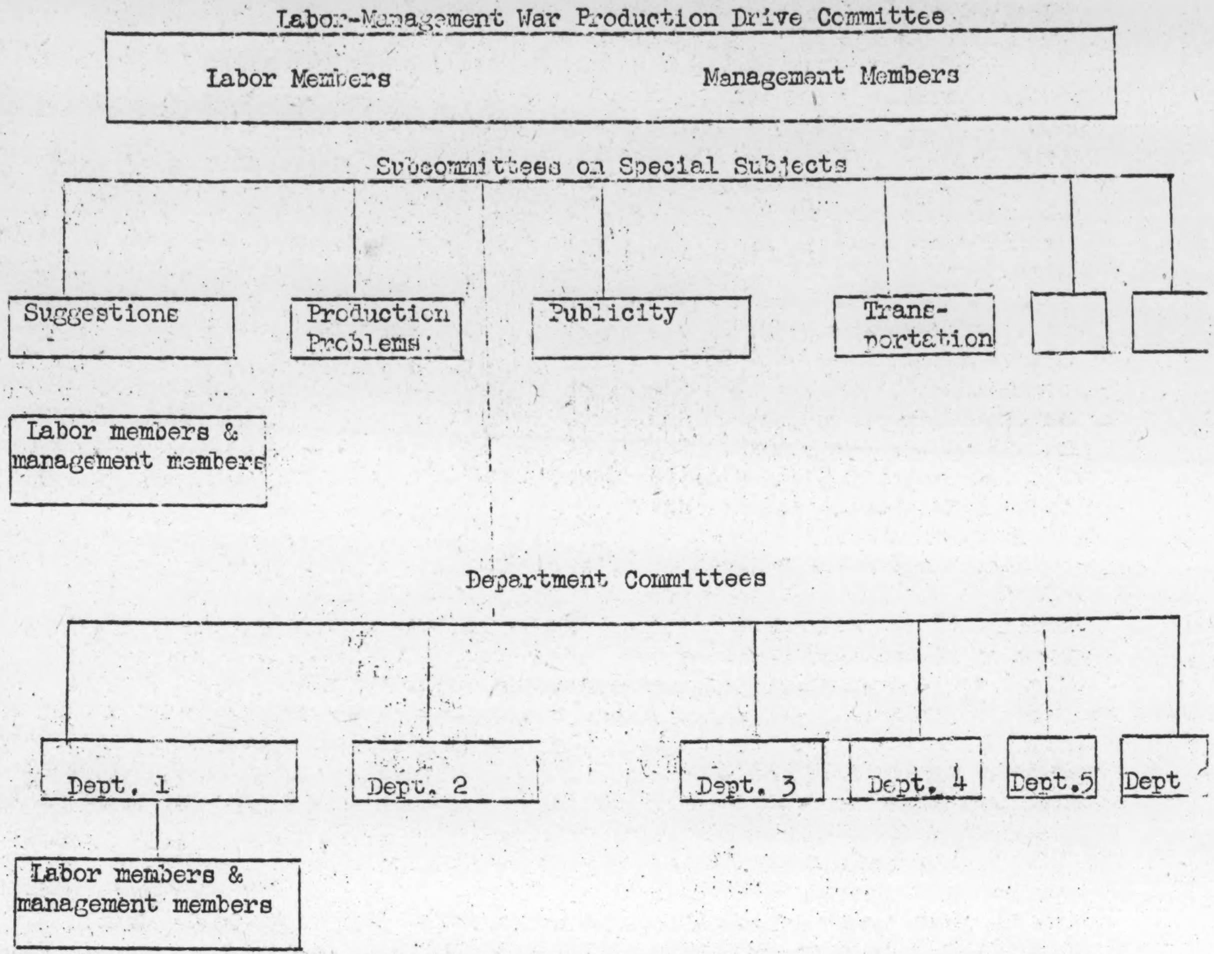
One big problem in the War Production Drive is to reach all the supervisory force and all the workers. In many large organizations department committees are organized, consisting of the department head, an employee representative (the union steward if there is a union) and one or two others. Some department committees have in turn appointed a committee on each shift or persons responsible for the Drive on each shift. In small plants department committees are scarcely necessary. In larger plants the department committees carry out the plans of the main Committee and of the subcommittees on special subjects. It is a good idea to have a foreman and a union steward or department representative as guests at Labor-Management Production Committee meetings, a different department being represented at each meeting until all have been brought in touch with the Drive. The selection of officers for these committees is not a critical issue. These men and women usually know each other well, sit around a table and readily bring up what is on their minds. Minutes are kept so that the follow-up of ideas will be accomplished. Summaries might well be posted on department bulletin boards.

In larger plants these department committees often become the principal committees on production problems. The members are close to the jobs in the department and note many ways of improving them in relation to each other. The germ of an idea, tossed back and forth among committee members, sometimes develops into an important improvement in plant efficiency. A committee in a large textile mill writes: "These departmental subcommittees have proven very helpful in that at their meetings they frankly discuss the failure of established routines to function smoothly. Most good suggestions regarding scheduling, employee supervision, employee morale, etc., have come from these subcommittees".

If, in addition to the department committees there is a subcommittee on the subject of production problems it perhaps will work on more difficult problems and on those which affect the plant as a whole. The Labor-Management Production Committee might ask it to consider those suggestions from department committees which relate chiefly to production and which could be introduced in more than one department.

One shipyard Committee has organized its subcommittees by crafts, "to give the workers in the yard wider representation". Its minutes state: "It was suggested that each craft choose a subcommittee which would receive and consider ideas, problems, complaints, etc. These subcommittees would meet periodically with the Labor-Representatives of the main Committee and iron out difficulties, produce possible solutions for problems, and that the Labor Representatives would then present the problems to the main Committee in final form to be considered by it."

The best planned structure in the world cannot function if there are weak materials in it. While good Committee structure is important it must not be forgotten that a willingness to share concern for production the part of labor and of management is really what makes the Committee function. That willingness, however, results in effective action only through a practical setup. If the Committee is in a plant so large as to warrant both subcommittees and department committees, a chart of its work would look somewhat as follows:


Labor-Management War Production Drive Committee
Labor Members
Management Members
Subcommittees on Special Subjects
Suggestions
Production Problems
Publicity
Transportation
Labor members & management members
Department Committees
Dept. 1
Dept. 2
Dept. 3
Dept. 4
Dept.5
Dept
Labor members & management members

The top Committee then becomes a clearing house and steering committee. It receives reports and acts on recommendations of the subcommittees on special subjects and of the department committees. It refers matters from one committee to another as, for example, when a department committee makes a suggestion on conserving a critical material. The top Committee might refer this to the subcommittee on Conservation for study and recommendations. Then on receiving an affirmative report, the top Committee would suggest similar action in all departments where it suggestion applies. Furthermore it initiates action in all department committees and in the special subcommittees so that during a salvage or absentee campaign, or an effort to improve quality of work and reduce rejections, all workers, supervisors and committees are pulling together to improve war production.

## LAUNCHING THE PROGRAM

Everyone in the mine, mill, plant or shipyard should know when the Labor-Management Production Committee is organized. It takes time for a Committee to get into full swing but the first signs --- the appearance of some posters, the erection of new bulletin boards, the installation of suggestion boxes here and there --- should appear to workers and foreman not as a few disjointed activities but as part of a big movement which will gradually come home to every individual in the organization. The best way to introduce the idea is through some inaugural ceremony at which the president of the company, a representative of the national union, (if any) spokesmen for the Army, Navy or Maritime Commission and the War Production Board appear in order to explain the purposes of the Drive. Possibly a returned airman, soldier, sailor or seaman may be available for the occasion to tell of the urgent need for the product of the plant. If there is an auditorium available, motion pictures (these can be secured with the assistance of War Production Drive Headquarters) of the armed forces in action or of other War Production Drive Committees can be shown.

The most important message at this opening occasion is that the plan is solely to improve war production and this is to be accomplished not through unreasonable pressure on the workers, but through greater efficiency and betterment of production technique. One manufacturer, not being able to reach all of his employees in one spot, arranged for a series of meetings in the various departments. There he guaranteed them that their earnings would not suffer as a result of any developments in the Drive and that if, under the tension of the war, they were able to produce more, individually, such achievements would not become a precedent for the standard after the war.

In addition to general meetings, the president of the company or the works manager can secure the support of foremen and department heads by meeting with them in listening to suggestions from employees, and in trying out with an open mind the measures which are generally agreed upon. These men must know that adoptions of improved methods resulting from employee ideas will not reflect on their alertness or ability. Meetings between union leaders and shop stewards, as well as with the union membership, may make clear the kind of initiative which will be welcomed in committee members and in the written or spoken suggestions from all the workers.

Drive stationery printing the name of the Committee, the names of the company and of the cooperating union or unions is an important next step. Some Committees have **launched** their Production Drive with Volume I number 1 of a Drive Bulletin prepared by an editorial board of the company and the cooperating union.

## SUMMARY

With one step taken at a time, the organization of a Labor-Management Production Committee is not difficult. These are the steps which lead the way;

1. Preliminary meetings to discuss the general purpose and make-up of the Committee.

2. Selection of members by labor and management.

3. Organization meeting with selection of officers, time and place, provision for minutes and so forth.

4. Planning the program around production problems, manpower problems, and the informational program.

5. Appointment of subcommittees

6. Organization of department committees

7. Launching the program.

At each stage progress should be smooth if each individual, whether labor or management, keeps in mind the general principles outlined on page (5) and repeated here:

1. Labor and management will work together to increase and improve war production.

2. The prgram to be developed will enlist the full cooperation of labor without in any way modifying the responsibilities of management.

3. Grievances and collective bargaining matters will not be handled by the joint production committee, but will be referred to collective bargaining or other established machinery.

4. Top management will be represented on the committee to get decisions authoritatively and promptly.

5. Labor members will be responsible leaders of the workers, able to secure the fullest participation of the workers in the program developed by the committee.

6. All activities will be undertaken jointly.

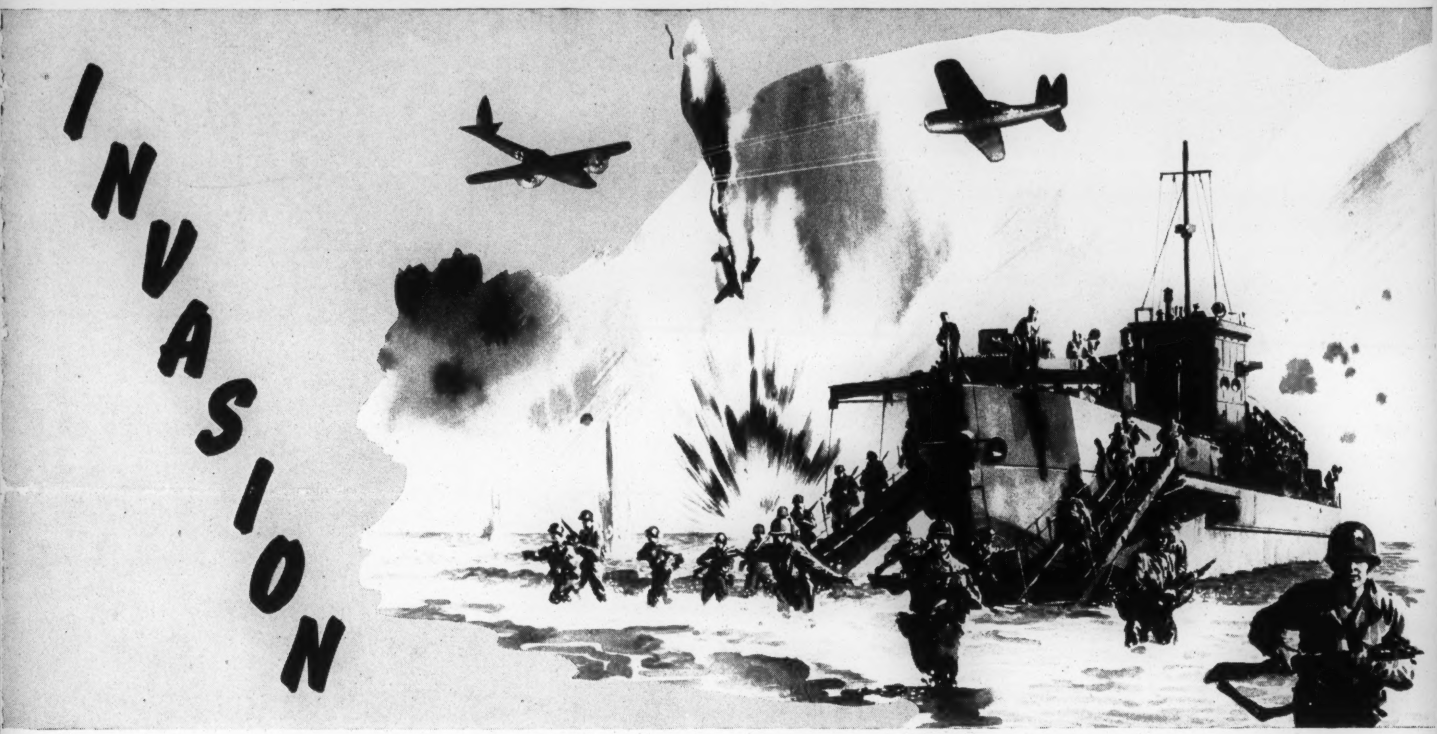
— Abbott.

AUTOMOTIVE
# WAR PRODUCTION

Vol. III No. 6 Published by Automotive Council for War Production June, 1944

FOR VICTORY BUY UNITED STATES WAR SAVINGS BONDS STAMPS

# INVASION



INVASION DAY was the result of years of faith—the faith of many peoples in the ideal that man shall be free to work out his own destiny.

That faith manifested itself powerfully in the "miracle" of the Dunkirk evacuation, wrought by a people determined to rescue their army—a "lost" army that now fights again. It was the sole armor of the English people in the Battle of Britain, in which so many came to owe so much to so few.

It was faith that enabled the Russian people to rally from terrible losses, to stand at Stalingrad when all seemed lost, and to hurl back the tide of Nazi tyranny.

This same powerful faith not only fired the American people's rapid recovery from the disastrous shock of Pearl Harbor, but became the shining light that caused other peoples to turn hopefully toward America for the fighting qualities and the productive ability needed to help set an enslaved world free again.

Faith in its own ability was responsible for the production performance of American industry when the need was greatest. The mountainous accumulations of military supplies and equipment now moving crushingly against the enemies of freedom attest to that.

Faith in its productive ability, nurtured through World War I and through the years of peacetime growth, was the source of that strength which enabled the automotive industry to undertake the manufacture of unfamiliar and highly specialized war products.

In the years since the American people summoned this industry to its wartime tasks, those weapons have been manufactured in huge quantities. Into their production have gone those qualities—extreme care, exacting workmanship, and restless research—which the unshackled hands of free people alone seem able to apply best to productive work. Those qualities are inherent in the battle equipment produced by this industry.

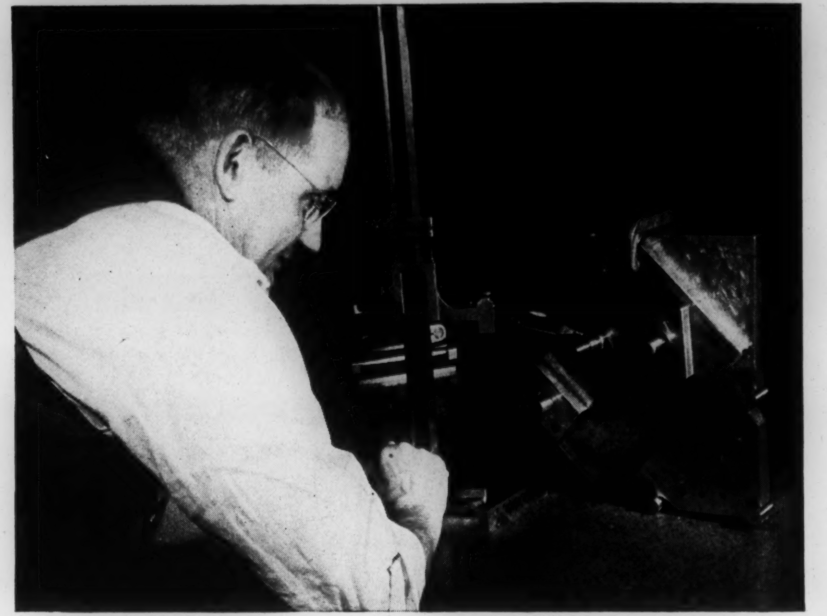
We, the people who participated in the production of that equipment, are confident it will meet this test—as it has already met the tests of earlier campaigns, in North Africa, Italy, Russia, the Near East, the Orient and the Pacific.

This industry will continue to outproduce the Axis nations, and to manufacture better and ever better products, to the end that victory shall come with the least possible loss of American youth.

With the free people of this nation, and all the world's people who would be free, we of this industry face the eventual outcome with FAITH.

ALVAN MACAULEY, *President*
Automotive Council for War Production

Clip



This supervisor suggested a new type fixture to bend aluminum tubing.

# Workers Display Ingenuity with Suggestions To Help Industry Meet War Production Goals

AMERICANS are the "tinkeringest" people in the world. Just turn over a piece of machinery to a curious Yankee mechanic—he'll examine it, take it apart, put it together, discover why it "ticks" and sooner or later come up with an idea to make it function more efficiently.

Recently, for example, an automotive company encountered difficulty in the manufacture of fuel injectors for Diesel engines. In cleaning tiny holes in the unit, pieces of piano wire were tried, but results were unsatisfactory.

While cleaning his pipe one evening at home a plant supervisor hit upon the idea of using pipe cleaners to do the bothersome job. He tried them the next day and they worked well. As a result the company has been using ordinary pipe cleaners in a standard manufacturing operation ever since.

Before the company could set up the new operation, however, a way had to be found to buy pipe cleaners. At first, the supervisor sent his children to all the stores in the neighborhood without success. Finally the Navy, after detailing officers to investigate, approved a priority under which the plant now buys the cleaners.

Further concrete evidence that this tinkering trait has paid handsome dividends to the Nation's war production program is found in the engineering records of many automotive companies. These show that workers on all phases of production have contributed to the industry thousands of ideas, or suggestions, to increase deliveries of war goods, improve quality, reduce costs or save materials.

Although some companies had sponsored suggestion plans before the war whereby an employee was paid for a practical production idea, the need for large quantities of war material following Pearl Harbor intensified the programs throughout the industry.

Committees of experts in the various automotive plants study and test the suggestions. Those ideas that are practical win for their originators awards of War Bonds or cash, and in outstanding incidents the War Production Board issues honor certificates. Any cash savings which result from the application of the ideas are passed along by the companies in the industry to the consumer, at this moment the government.

One company reports that during 1943, approximately 20 per cent of all the ideas submitted by their employes were found practical. From a total of 125,000 suggestions, some 25,000 were put to work on war production, earning for their contributors awards in War Bonds amounting to nearly a million dollars.

Many times an employe's suggestion has made possible increased production on equipment badly needed by the Army or Navy.

At one automotive company, now manufacturing aircraft, production on Navy planes averages an hour and a half less time per ship as the result of an employe's suggestion.

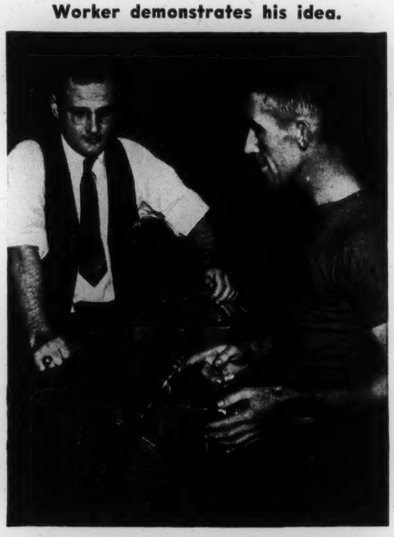
An employe in another company suggested an adjustment on the bearings of a secret weapon. The change resulted in the delivery of 1500 more units to the Allies than was possible before the idea was contributed.

The War Production Board recently cited three employes of an automotive company for a series of suggestions which resulted in the saving of 15,539 man-hours a year on the production of Army carbines. In addition, the ideas increased the number of guns delivered each day and will ultimately effect a saving of 250,000 rounds of ammunition for the Army.

One of the ideas called for a small V-type adapter which slips over the rear sight of the carbine. This enables the man firing the gun to adjust the wind drift indicator correctly and accounts for the estimated ammunition saving. The other ideas were concerned with improved methods of machining trigger barrels.

As one automotive executive recently said in reviewing the suggestion program: "It's pooling the thinking of the sweeper and the general manager and everyone in between."

Worker demonstrates his idea.



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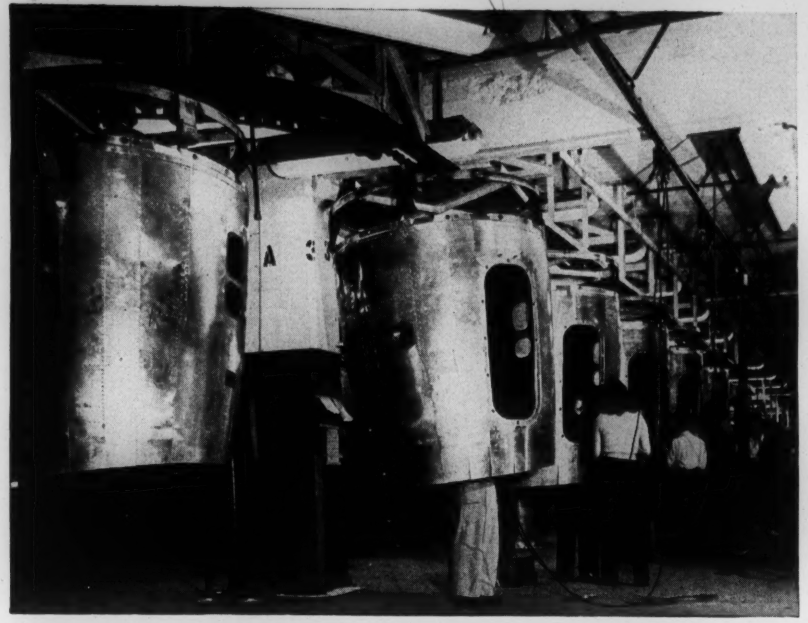


**Conveyorization of aircraft nacelle production helps save 8,650 man-hours a month.**

# Industry Boosts Production of Aircraft Parts When Special Conveyor Systems Are Installed

CONVEYORIZATION, the rapid and efficient handling of industrial materials in volume, is prominent among several factors which have been combined to make an automotive company one of the world's largest producers of hydromatic aircraft propellers.

In another instance a former automobile body manufacturer has relied on new-type conveyors to forge ahead as a leading supplier of wing-tips and engine nacelles for the Thunderbolt and Flying Fortress.

These accomplishments are the result of answers found for problems faced by many other companies in the industry when they were building up and expanding productive capacity in an effort to meet the tremendous goals set for them after Pearl Harbor.

The company which now manufactures propellers converted two old, multiple-story buildings into a modern war plant. To utilize the space most efficiently it was necessary to select and mount suitable materials handling devices. Among those chosen were monorail conveyors which carry the propellers one and three-fourths miles from one manufacturing operation to another, permitting the plant to step up its production nearly fourteen-fold.

During the conversion period, the former body manufacturer uprooted peacetime machines and assembly lines covering an estimated 80 per cent of the total plant area. In the process of tearing out automobile equipment, it was found that not a conveyor line designed for body production was suitable for the aircraft program.

Once war production got under way, the savings in time effected by the specialized conveyor system and other production techniques proved to be spectacular. Approximately 4,680 man-hours a month are saved on the fire-wall, longeron and beam assembly of B-17 engine nacelles; some 12,620 man-hours are saved on the wing-tip framing line; and more than 3,740 man-hours are saved on the nose section final assembly line.

This problem of handling materials has confronted and puzzled both engineer and workman alike since the dawn of history. In ancient Egypt, the building of the Pyramids was eased by mounting the huge stone blocks on wooden rollers.

Only 20 years ago, effective materials handling devices were comparatively new in industry. At that time, for example, automobile axles were manufactured by hand on rows of long tables and moved by human power. Then it took 1100 men eight hours to turn out approximately 500 axles. When a rude conveyor system was installed in the tables, production jumped to around 1900 axles every eight hours.

Modern progressive production methods grew from this experiment. In the years following, automotive manufacturers became widely recognized as the nation's outstanding example of an industry utilizing the best in plant layout, sequence of operation, latest-type equipment and economy of time and money in the movement of supplies.

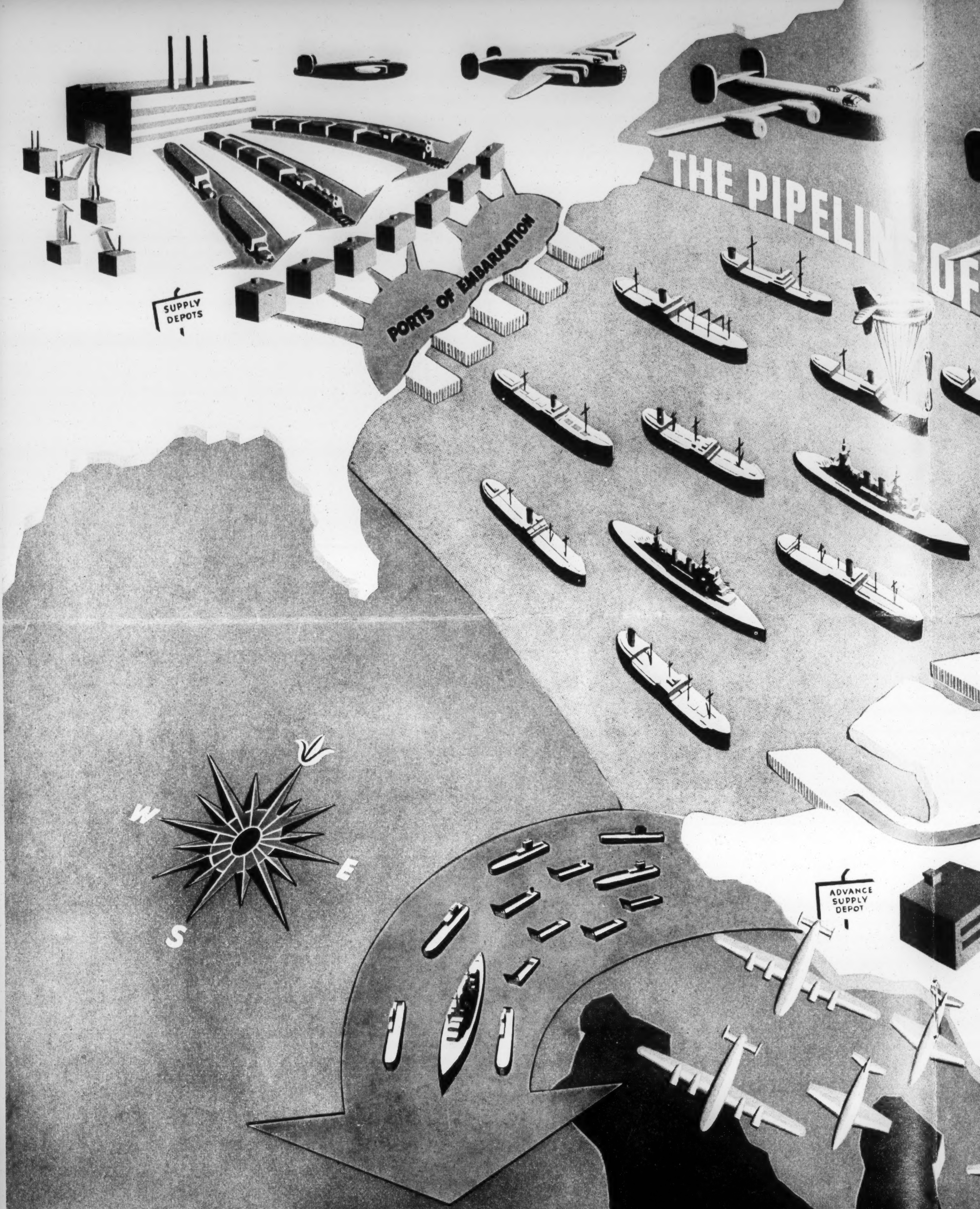
Research in the industry, which accompanied these developments, showed that "90 per cent of making is moving." Another fact revealing the value of materials handling equipment shows that two decades ago industry's internal freight bill exceeded the external transportation charges of raw material from mill to automotive plant.

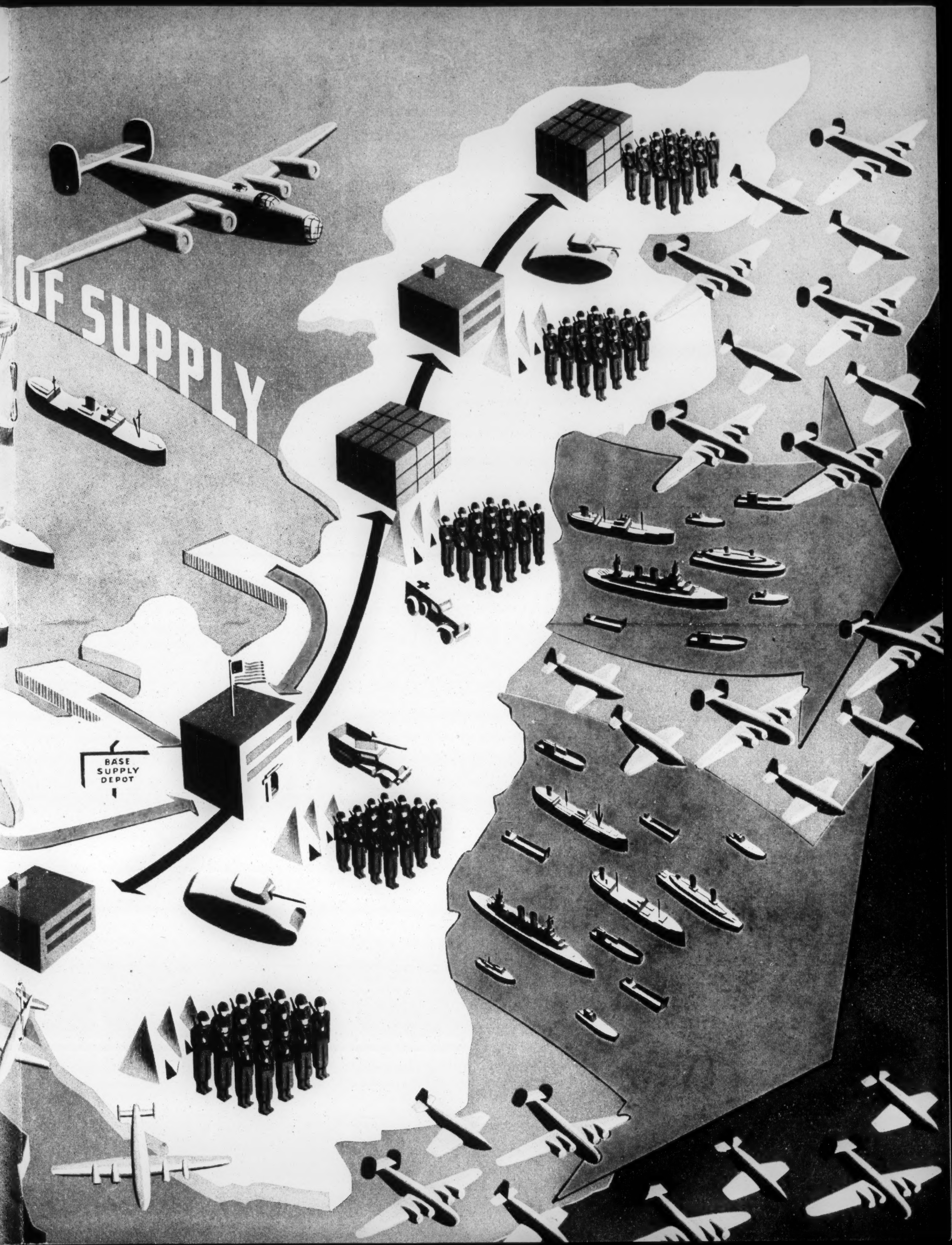
The peacetime results of the unanimous adoption of conveyor systems and similar devices, with their attendant saving in production time are visible in the thousands of low-priced automobiles on the nation's highways. In war production, where new types of conveyors have been utilized to meet special manufacturing problems, the results of conveyorization can be seen in thousands of tanks, planes, aircraft subassemblies, trucks, landing craft and other equipment which participated in the historic European invasion.

One of the outstanding production achievements of the war has been recorded by the automotive industry in the manufacture of tanks. By using automotive assembly line methods, where raw materials come in one end of the factory and flow out the other as finished products, one company alone has produced more than 11,000 tanks and tank destroyers.

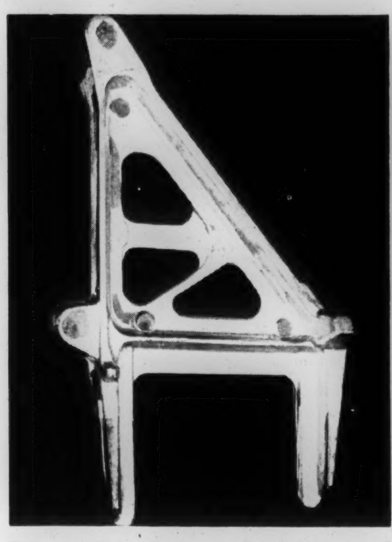
To accomplish this, the company installed a special conveyor system powerful enough to pull a 30-ton vehicle. Two lines, approximately 900 feet in length and costing $115,000 to install, resulted in increased deliveries to the armed forces and played a major part in helping to reduce the cost of tanks to the government.

Conveyorization has also proved effective on other types of war products manufactured by the industry; shell cases for example. One automotive company installed a system which replaced 27 operations and released 12 men for other war work in the plant, besides saving considerable floor space and permitting a smoother flow of raw materials to adjacent operations.

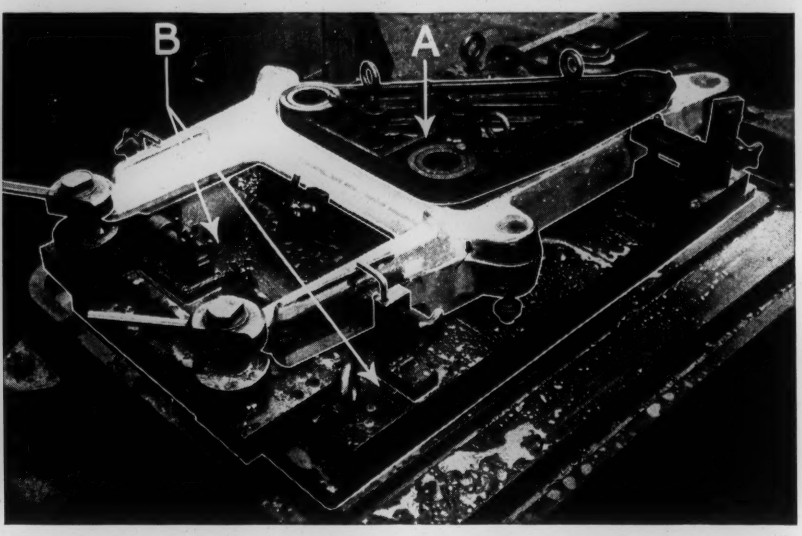

THE PIPELINE OF
SUPPLY DEPOTS
PORTS OF EMBARKATION
W
E
S
ADVANCE SUPPLY DEPOT


OF SUPPLY
BASE SUPPLY DEPOT

# JIGS AND FIXTURES: These Are the Tools Which Enable Industry To Build Complicated Products in Volume



**This is the aluminum forging out of which will be made one of the important wing-support frames for the folding wings of carrier-borne dive bombers.**



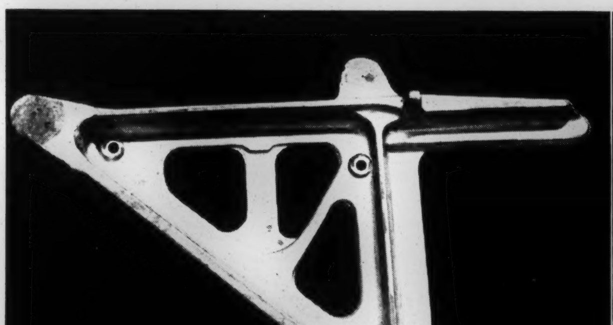
**The frame is locked into a FIXTURE (B) with clamps, to insure that it will be in exactly the proper position for the first work to be done on it. Then a JIG (A), the triangular piece of metal outlined above, is clamped down in the desired position. The FIXTURE will hold the product, and the JIG will guide the tool accurately.**

TWO of the important keys to mass production are called "jigs" and "fixtures." Combined with tools and machines, they are responsible for the ability of the automotive industry to manufacture thousands of complicated products, each part of which must be drilled, planed and shaped in exactly the same way as its predecessor.

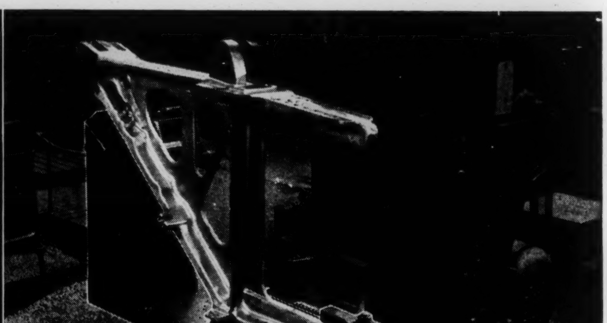
The jigs and fixtures illustrated, as well as many other tools and machines used on war production in the automotive industry, are specially made for the manufacture of special products. When circumstances alter the demand, and there ceases to be a need for the product this special equipment becomes obsolete and must be scrapped.

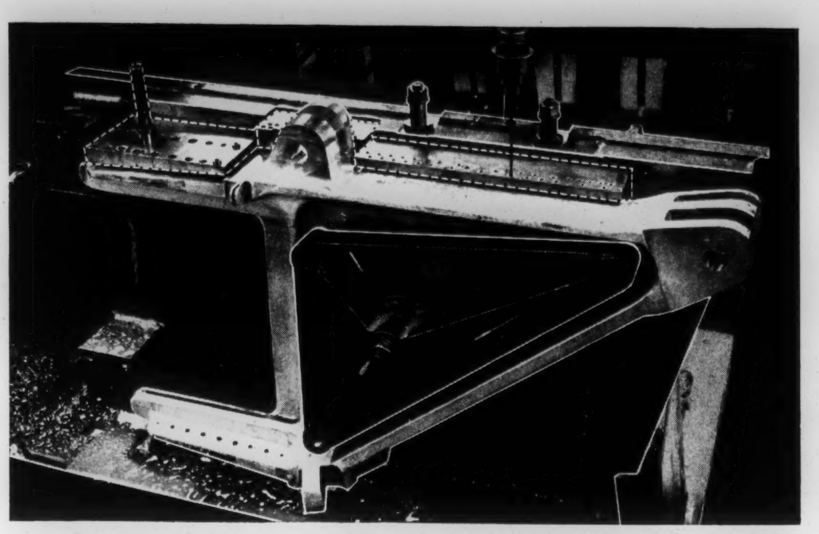
Broadly speaking, a fixture may be defined as an apparatus designed to hold the piece of material on which work is to be done. The jig may similarly be defined as an apparatus designed to guide the tool which will do the work. Both jigs and fixtures must be highly accurate, and being quite generally used in combinations

**Guided by the JIG, a drill bores three locating holes in the frame. These holes will locate the place of measurement which will in turn determine the location of subsequent work.**



**After passing through a series of operations during which 86 holes of various sizes have been drilled, the frame is locked vertically in a FIXTURE for further drilling operations.**





**In a final stage, the last of 283 holes are placed in the frame, again held rigidly in a FIXTURE, while the drill is guided in turn by three different JIGS, as outlined by the dotted lines in the picture. The holes range from .173 to .250 of an inch in diameter, and each must be accurate to a tenth of a thousandth of an inch.**

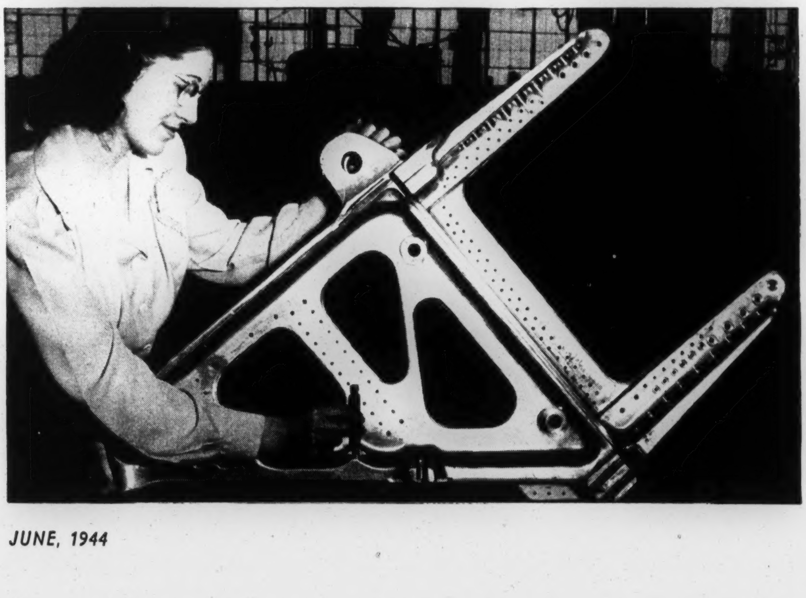
with one another, they supplement one another's functions.

Both are highly variable as to size and shape. The fixtures required in the making of bomber wings, for example, may be 100 feet long and 30 feet high, and may cost as much as $50,000 each.

Their applications are many. Fixtures may be used to hold material of almost any size, in almost any position. Jigs may be used to guide almost any type of tool in almost any type of function—cutting, reaming, countersinking, drilling, slotting, to name a few. Yet, any ten identical parts of any product, placed in the same jig and fixture assembly and drilled in the same way, will have identical holes of identical sizes in identical positions when the drilling is finished.

As the accompanying pictures demonstrate, this ability to produce identical parts in quantity, with accuracy, and at great speed through the use of these mechanical aids to human hands is one of the factors that makes possible the progressive manufacturing of complex products either in war or peace.

**After 51 operations, work on the frame is completed, and an inspector gages the 283 holes before dispatching the frame to the point where the dive bombers are assembled. Complete interchangeability of parts is readily assured by this process.**



# Mobile Clothing Store Serves Twenty Cities

## Unique Truck Travels Southern Coal Fields

NEARLY everybody is familiar with some of the novel ways in which motor trucks are filling unusual wartime assignments. There are traveling libraries in rural communities, mobile Red Cross Blood Bank units, Army and Navy clubmobiles, to mention only a few examples.

Now comes a clothing store on wheels, a completely equipped motorized shop which travels the coal fields of Logan, McDowell and Wyoming counties in West Virginia. Operated by a mining company for the benefit of its employes, the store serves approximately 6,000 families in 20 cities.

Known as "fashions to your door," the unit visits each of the communities, all located within a 65-mile radius of the company's headquarters, for two or three days each month. Employes may purchase custom-tailored clothing or be fitted with ready-to-wear styles.

The store is housed in a large six-wheeled truck, and carries a standard line of 100 men's suits, 150 dresses, as well as ladies' suits, overcoats, fur coats, top coats and sport jackets. It is estimated by company officials that approximately 20,000 adults patronize the "fashion trailer" during each trip through the territory.

The service was inaugurated in 1937 after the company realized that many miners lived in out-of-the-way homes and isolated villages, and had no opportunity to shop for stylish, quality wearing apparel comparable to that found in city shops.

With longer working hours and the restrictions imposed on cilivian activity as the result of the war, the idea has proved to be a time-and-travel-saver for the employes. In addition, the workers like the personal service they receive from the top-notch tailor and dressmaker accompanying the unit.

Company officials report that sales in the "fashion trailer" range from $2,000 to $4,500 a week. The prices charged compare with those found on merchandise in independent and chain retail outlets.

The service has proved so popular in towns throughout the area that the advantages of the traveling store are not restricted to company employes.

# New Type Ammunition Made by Motor Firm

## Buck-Shot for Pistols Issued to Servicemen

If Captain Eddie Rickenbacker and his life-raft companions had been equipped with the armed forces' latest type weapon for self-preservation, their ordeal in the South Pacific would have been less exacting.

This new weapon, one of the most prized pieces of equipment currently being issued to American service men stationed overseas, is a package of buck-shot shells designed to fit a regulation .45 calibre pistol.

A few rounds of these shells augmenting regular ammunition minimizes the threat of starvation to sailors cast adrift from a sinking vessel, soldiers isolated in a deserted country, or airmen forced down in a remote jungle. As long as gulls, fish, birds, or small game come within a 40 foot range, the stranded service man is able to bag wild food.

The shells, now being produced in volume by an automotive company, are a combination of a regular .45 calibre steel shell case and a special capsule composed of three layers of paper pressed together and held tight by a new kind of paste. Fitted into the case, the capsule takes the place of the usual steel or lead missile.

Inside the paper container, lacquered red to distinguish it from other types of ammunition, are approximately 135 tiny lead shot. These are similar in appearance to the ones used in some shotgun shells. The steel cases holding the paper wads are manufactured by a process which the automotive company helped the army develop.

Grooves inside the shell case hold the paper nose in place. When the gun is fired the paper wad is discharged, in turn disintegrating and allowing the shot to scatter in a large pattern. These pistol-sized buck-shot shells enable a lost service man to hit targets that could not possibly be stopped with the ordinary high speed, single shot ammunition. To date, the automotive company has manufactured more than 4,000,000 of the shells.

To prevent errors occurring during the selection of ammunition in the field, the buck-shot shells are packed in specially-designed containers.

**Paddles attached to truck wheels agitate dust in test room.**

# Effect of Sand on Military Vehicles Studied By Automotive Men in 'Dust-Bowl' Laboratory

Just as training under simulated battle conditions prepares a soldier for front-line duty, so rigorous treatment under simulated climatic conditions develops trucks, tanks and other military vehicles for combat operations.

Specially-built research laboratories, where automotive engineers conduct exhaustive tests, assure that the Army's mobile equipment will perform efficiently in a blizzard on the Alaskan Highway, a sand or dust storm on the desert, or in the dampness of a tropical jungle.

Recently an automotive company announced the operation of a "dust-bowl" laboratory where the effects of sand and fine dust on the life of mechanical parts will be tested. Necessity for such research arises from desert warfare, where extraordinary burdens are placed on air cleaners, grease seals and connections as well as from the military practice of driving over dirt roads in long convoys, which introduces dust problems foreign to ordinary travel.

In the test room, vehicles are mounted off the floor and operated by remote control from a sealed booth. Almost any wind velocity and dust intensity can be churned up in the "bowl" through a series of air induction jets and miniature windmills. To obtain extreme agitation of dust particles, truck wheels are fitted with four bladed paddles.

The simulation of actual driving conditions is accomplished by eccentrically weighting the vehicle's wheels and equipping it with extremely light springs. This allows the wheels to bob up and down as they revolve, exactly as though the truck were traveling over rough terrain. The wheels are brought to a speed of 35 miles per hour for five minutes, then braked to a stop.

**AUTOMOTIVE WAR PRODUCTION**

Published by
WAR PRODUCTION INFORMATION DEPARTMENT
**Automotive Council for War Production**
New Center Building, Detroit 2, Michigan

Contents of This Publication May Be Reproduced or Quoted. Mats of the Illustrations Available on Request.

Worth - Maritime 62 NB - 2682

UNITED STATES MARITIME COMMISSION

For Immediate Release
Thursday, July 27, 1944

Cleared and Issued
Through Facilities of the
Office of War Information

Four women employes of the United States Maritime Commission have received awards for employe suggestions for June, the Maritime Commission announced today.

Two of the women are employes of the Maritime Commission's East Coast Regional Construction Office, Philadelphia, Pa., and two are employed in the Finance Division, Washington, D. C.

Miss Vera Roland, Finance Division, received $5 for a suggestion that eliminated two copies of letters being typed in her unit.

Mrs. Ruth E. Brown, Finance Division, was awarded $10 for a suggestion that will expedite the handling of transportation vouchers.

In the Philadelphia office, Miss Anne G. Barenbaum received $10 for her suggestion that the employe responsible for execution of a particular piece of work be included in conferences in which the details involved are worked out by officials. Miss Mary F. Wheatland's suggestion for moving mirrors in the women's lavatories away from the wash basins won a $5 award.

In announcing the awards, the Central Suggestion Committee pointed out that tangible savings in either time or material were obtained from three of the suggestions. At the same time, it noted that the procedure suggested by Miss Barenbaum was followed in many offices, but that the committee believed a more widespread application desirable.

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Aug 3 '44

## Ladies, Bless 'em, Win Idea Awards

To the ladies—God bless 'em—went top honors this week in employe suggestion awards to the tune of $176, split between Mrs. Cleo Stoker, Anaheim feeder shop, and Mrs. Melba Sparks, Accounting.

These clever girls won $88 each for a time-saving auditing plan for feeder shops, eliminating a record sheet formerly used. Some 2000 sheets were typed each week. These are now superseded by preprinted time cards.

Johannas Vetter, Field Operations, won next highest award, $200, for designing a new-type wrench for working bolts and nuts in inaccessible places. He gets $100 this week, with the balance to be paid in six months.

A total of 28 awards netted submitters $1,126.50. Other winners and amounts awarded are as follows:

H. L. Guest, Dept. 530, $92; J. M. Rivero, Dept. 197, $70; H. G. Renaud, Dept. 29, $67.50; L. S.

to hospital for

"Bodie" got to work on time.

## Ladies, Bless 'em, Win Idea Awards

(Continued from Page 1)

Butler, Dept. 140, $66; G. W. McLerran and C. M. Parker, both Dept. 192, $31.25 each; P. L. Sobeck, Dept. 190, $45; W. T. Moore, Dept. 178, $40.

R. E. Allen, Dept. 197, $36; J. C. Willbanks, Dept. 175, $33; L. Byrne, Dept. 30-1, $32; Luis Lynn, Dept. 30-1, $30; J. M. Prince, Dept. 230, $28; Lawrence Byrne, Dept. 30-1, $24; E. H. Manor, Dept. 215, $21; H. L. Corcoran, Dept. 529, $17.50; C. F. Steelman, Dept. 407, $15; R. H. Davis, Dept. 406, $15; Lillian Brotherton, Dept. 260, $10; Jerome Smrt, Dept. 25, $10; Lawrence Byrne, Dept. 30-1, $10; Eddie Zamboni, Dept. 522, who won four awards of $6.50 each; and M. H. Clawiter, Dept. 192, a tentative award of $200, of which $100 was paid this week.

CITES IMPOR

Military Svc. Jo.
Women

WAR DEPARTMENT
Bureau of Public Relations
PRESS BRANCH
Tel. - RE 6700
Brs. 3425 and 4860

November 6, 1944

IMMEDIATE RELEASE

## STAFF SERGEANT IS FIRST ENLISTED WAC TO RECEIVE LEGION OF MERIT

Staff Sergeant Ella Charlie Wright of Kalama, Washington, today became the first enlisted member of the Women's Army Corps to receive the Legion of Merit, the fourth highest decoration awarded by the Army.

It was presented to Sergeant Wright this afternoon by Lieutenant General Joseph T. McNarney, Deputy Supreme Allied Commander, Mediterranean, and Commanding General, Mediterranean Theater of Operations, United States Army, at a ceremony at Allied Forces Headquarters.

Sergeant Wright's husband, William Wright, and her mother, Mrs. Eline Berg, live in Kalama. Prior to enlisting, Sergeant Wright was employed by the Pacific Telephone and Telegraph Company at Longview, Washington. Sergeant Wright was with the first WAC company to come overseas.

The citation for Sergeant Wright follows: "For exceptionally meritorious conduct in the performance of outstanding services in North Africa and Italy from February 4, 1943 to October 24, 1944. As chief telephone operator for a Signal Service Group, Staff Sergeant Wright was responsible for the telephone switchboard operations at Allied Force Headquarters. By her unusual knowledge and initiative and through her unselfish devotion to duty, she met an ever-increasing demand for telephonic communications in this important headquarters, in a superior manner. Her cheerfulness, tact and diplomacy through the many trying situations which were constantly arising contributed greatly to the efficiency of the telephone service and the high morale of the personnel under her supervision. The tireless energy and ability displayed at all times by Staff Sergeant Wright contributed greatly to the success of the operations of Allied Forces Headquarters and has brought great credit upon herself and the Women's Army Corps."

END

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Aug 10 44 Whitelock

THE CONSOLIDATED NEWS

# Women Snare Top Pay-Offs In Suggestions

(Photo on Picture Page)

Another one of those simple gadgets, this time from the alert mind of one Mrs. N. B. Marshall, B-24 Wing Outer Panels, won the top award of $88 in last week's Employe Suggestions.

She annexed major honors by suggesting a steel fixture to support access doors on all four edges at the same time, permitting faster counter-sinking and easier operation.

Another woman proved that "weaker sex" is a misnomer, when Mrs. Margaret S. Smith, B-24 Nose Disassembly, won an award of $48 by suggesting a drill template to drill a Liberator skin subassembly.

## IS TIME-SAVER

Mrs. Smith's newly designed jig saves drilling time, eliminates errors, and ends drilling with flex-drill and reaming of holes.

Steve Recskes jr., Instruments, won $82.50 for constructing a jig to locate the elevator locket bracket, thereby simplifying a simple job and eliminating possibility of error.

Clever idea thinkers in 22 separate awards won $655. Other winners and amounts received were:

Carl Ransom, Dept. 527, $54; R. J. Babinski and R. H. Thrasher, Dept. 276, $34 each; D. J. Stewart, Dept. 142, $33; C. A. Baugh, Dept. 207, $31; W. C. Pepperdine, Dept. 27, $30; Charles G. Coppedge, Dept. 153, $27.50; M. H. Parrish, Dept. 527, $22; A. D. Lyles, Dept. 190, $21; Louis P. Wegenka, Dept. 273, $20; Clara Berger, Dept. 142, $19.50; B. V. Devers, Dept. 175, $19; Ivan M. Grindstaff, Dept. 272, $19; J. H. Jenkins, Dept. 132, $15; Kermit Klewer, Dept. 192, $15; J. Gower Jr., Dept. 527, $12; H. W. Ryffer, Dept. 25-4, $10; H. C. W. Krueger, Dept. 401, $8; Arthur V. Fogarty, Dept. 527, $7.50; Nettie M. Pritchett, Dept. 142, $5.

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Jan 18-45

THE CONSOLIDATED NEWS

# Women Get Most Suggestion Cash

Start of the New Year saw women predominate as Employe Suggestions winners, the top prize and four other awards out of nine going to the fair sex last week.

A simple idea to spot IBM rush orders brought Ethel M. Weniger, Production Control, top award of $64. IBM orders, which are rush orders, have been processed with regular orders and separating them has required much time. Ethel's idea was to use a separate folder with a red cellophane flag cut to indicate part numbers, making it posible to spot orders at once and expedite delivery to shops.

## TOP MAN WINNER

Lloyd E. Sills, Cargo Subassembly, led the men idea thinkers, winning $42 for his idea to use screw jacks for leveling beltframes and structures of gondolas on the RY3s. This new method speeds the leveling operation and is more accurate than the old system.

For eliminating a safety hazard in cutting wooden wedges in the salvage yard, F. R. Bolls, Salvage, won $20. He designed a jig to protect fingers and save time.

Other winners and amounts received were:

R. H. McNease Jr., Dept. 251, $16; Mrs. K. S. Hunter, Dept. 513, $10.50; W. F. Rinkleib, Dept. 525, $6; Margaret C. McKay and Minnie C. Puckett, Dept. 224, $2.50 each, and Mrs. M. W. Williams, Dept. 224, $5.

# 'Y' Sponsoring New Activities

The Y.W.C.A., 1012 C street, will sponsor a variety of activities each Thursday

August 16, 1946
1252 Wilbur Street
S. Diego. 9, California

WOMEN'S BUREAU
AUG 23 1946
DEPARTMENT OF LABOR

Miss Frieda Miller
Cheif of Women's Bureau

Dear Miss Miller:

This morning a radio broadcast stated that it is your belief that some arrangments should be made for a "Baby Bonus". I have believed this for some years, and I am glad to see someone in a position of influence taking such a concrete stand.

My husband is a Sergeant Major in the Regular Marine Corps, and we are buying our own home. He has served eight years, four of them as a Sgt. Maj., is 32 years of age, and I am 24.

We have two sons, one four

years old in November, and the other eighteen months, and when my husband returns from China next year we plan to have two more children

I realize that our standard of living will be materially lowered by a family of four, but we feel that we can give our children affectional security, and lessons in integrity and good citizenship that money cannot buy.

My husband and I each have had two years of college, and realize that it is our duty as Americans to have children.

If you would like to accomplish something that would not require as much contriversy as your "Baby Bonus", investigate the possibilites of having the family Allowance continued, at least for the first 3 paygrades. The $30.00 for the first child, and $20.00 for each succeeding child, means the difference between existance and living for the magority of service families.

Even with the new raise in

base pay, it will be difficult to rear a family properly. It is the people who have or want children who will suffer, but we are fond of children, and work hard at being good parents.

The present trend is toward larger families. It is amazing how many of our friends have three or four children, and plan on more — or would, if they could afford it. Many people in moderate circumstances would like to have the larger family your plan would make possible.

You have a great battle ahead, but your support is from the little people. I know!

For bigger and better American families!

Sincerely,
Charlotte Spadaro
(Mrs. Samuel A. Spadaro)

P.S. I would appreciate information as to your progress.

Poplarville, Miss.
Aug. 17, 1946

Miss Frieda Miller.
Washington D. C.

Dear Miss Miller -

I have just read your Statement on Bonuses for Baby's, and I would like to tell you of a family that has Six Lovely children, and how and why they live as they do. The Eldest Child is Sifteen, the youngest is 8 months old. Their Father is not Well, and He is or was an Electrician by Trade. but

was in Civil Service
for four years. at Camp
Shelba, Miss. while in
this service had both
arm's broken and has
not been able to follow
his trade since as
he lost his grip and
can not climb any
more. They paid Him the
Sum of less than $15.00
per month for a while
and now they have
Withdrawn that. So last
Week he had to sell the
little $1000,00 One thousand
dollar home and bought
a small Grocery Store.

now they live in one Room in an old Store Building, so their children may eat and attend school. However there is no hope for college or any thing much for those fine children. That is just one family I know of the many.

So why bring more children in this World to exist when there are so many here now that needs consideration?

Respt.

Mrs. C. L. Beasley

Route A.

# BONUSES FOR BABIES TO BEGIN IN BRITAIN

## First Payment in $4,000,000-a-Week Program Will Go to 2,000,000 Families

LONDON, Aug 4 (AP)—Britain will begin her $4,000,000 a week bonuses-for-babies program on Tuesday.

More than 2,000,000 mothers—representing twice as many children—are expected to queue up at postoffices for the five shillings a week to be paid by the Government for each child under 16 except the eldest. The income tax will pay for the program.

Quadruplets, four sets of twins in a single family and families of fifteen children are among the candidates for the benefits. The largest sum is expected to go to a family in Tynant, Wales, that has twelve eligible children and three who are too old. They will receive an allowance of £3 a week.

The grants are made under the Family Allowance Act, passed in June, 1945, before the Labor Government came into power. The bonuses represent the first implementation of a comprehensive social-security program that will extend to insurance benefits for sickness, unemployment, retirement, maternity and widowhood.

While the Family Allowances Act is hailed here as Britain's first recognition of the value of parenthood to the State, it still does not match the program under way in Canada since last summer. Canada has been contributing $20,000,000 monthly to aid parents at the average rate of $6 for each child under 16. Some 3,260,000 youngsters, more than a fourth of Canada's 12,000,000 population, are benefited by the payments.

Britain has already had 2,250,000 applications for the baby bonuses and only 2 per cent have been rejected, the Minister of National Insurance, James Griffiths, said. Applications are still coming in at the rate of 12,000 daily, and Government sources estimated that a total of 2,600,000 claimants might be reached.

All British families and many resident foreigners, regardless of their incomes, can claim the allowance. Foreigners are eligible if they have lived in the country three of the four preceding years. Every child under 16—except a family's first—is eligible for the allowance as long as he is in school, college or university, or while apprenticed in a trade.

One of the early successful applicants was Mrs. John Walker of Lancaster, wife of a laborer. "I shall have £2 10s for my ten children," she said happily. "It's nearly as much as our whole income before the war."

WOMEN'S BUREAU
AUG 21 1946
U.S. DEPARTMENT OF LABOR

Box 652
Canby, Minnesota
August 18, 1946

Frieda Miller,
Chief of Labor Dept's. Women's Bureau
Washington, D.C.

Dear Miss Miller:

The enclosed clipping appeared in our Sunday Tribune. As a mother of two children, ages 4 years and 3 months, and in the lower income bracket; I thought you might be interested in my views on that subject.

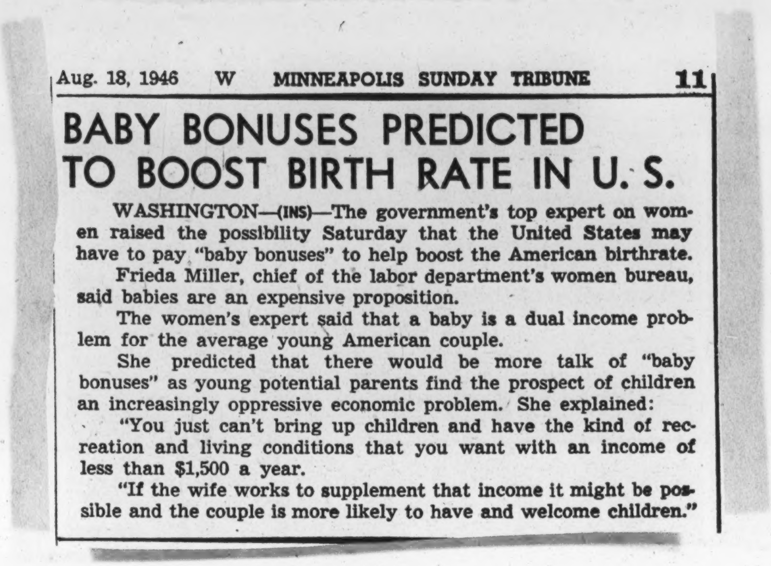
I don't think "baby bonuses" as outright grants of money to parents on the birth of a child would work to the advantage of the child at all.

Those people, whom you wouldn't want to encourage to have children, would use the bonus money and the unfortunate baby wouldn't have better food, clothes or care.

Food and clothing, a big item in child raising, can be met by parents in most cases. The item that makes us hesitate and wait before we have any more children is the high cost and now increasing cost of maternity care, hospital bills, medical and dentist fees for the children until they are grown. If these costs were met, partially or fully, with government help; (1) no money would be used for a purpose it was not intended, (2) the children's health would be raised to a higher standard, (3) parents would not hesitate to have larger families knowing that good health was insured.

I feel deeply that this would be the answer to the declining birth-rate.

Sincerely,
Mrs. Harlan Jorgenson



Aug. 18, 1946 W MINNEAPOLIS SUNDAY TRIBUNE 11

# BABY BONUSES PREDICTED TO BOOST BIRTH RATE IN U. S.

WASHINGTON—(INS)—The government's top expert on women raised the possibility Saturday that the United States may have to pay "baby bonuses" to help boost the American birthrate.

Frieda Miller, chief of the labor department's women bureau, said babies are an expensive proposition.

The women's expert said that a baby is a dual income problem for the average young American couple.

She predicted that there would be more talk of "baby bonuses" as young potential parents find the prospect of children an increasingly oppressive economic problem. She explained:

"You just can't bring up children and have the kind of recreation and living conditions that you want with an income of less than $1,500 a year.

"If the wife works to supplement that income it might be possible and the couple is more likely to have and welcome children."

Miss Turner

Can you set up a file for these baby-bonus letters. They were never answered, and might be kept together. Rex

To - Miss Miller 8/20/46

From - F. Whitelock

The postal card and attached letter refer to newspaper story below. This was written by Martha Kearney of INS. Miss Kearney talked with you about a week ago.

## Baby Bonus Plan Advanced To Raise U. S. Birth Rate

By International News Service.

WASHINGTON, Aug. 16.—The government's top expert on women raised the possibility today that the United States may have to pay "baby bonuses" to help boost the American birth rate.

Frieda Miller, on the eve of her second anniversary as chief of the labor department's women bureau, said babies are an expensive proposition involving not only the responsibility of parents but government and John Q. Taxpayer, himself in person.

Miss Miller declared that the majority of employed wives and mothers are more likely to have children than if they were housewives. She predicted that there would be more talk of "baby bonuses" in the United States as time goes on and young potential parents find the prospect of children an increasingly oppressive economic problem.

The women's bureau chief indicated that in her opinion there is no basis for blaming working mothers for juvenile delinquency.

---

Miss Miller:

If I were still young no amount of "baby bonues" could induce me to bring another little innocent child into this hazardous world.

And if we do manage to stop war, that, together with all the new discoveries for saving and prolonging human life, will result in this world eventually becoming over populated. What then?

Are we going to pass laws condemning people to death after they have reached a certain age. (a thing that would cause more heart-break and despair in this world, than atomic war) or will we decide on birth control?

Under the circumstances there are quite enough babies being born, too many in my opinion.

Mrs. McKinley
113 Vine St. Lynn. Mass.

---

Just file

Miss Miller said not to bother to answer
FW 8/20/46

WOMEN'S BUREAU
AUG 20 1946
DEPARTMENT OF LABOR

Aug 17-46

Dear Frieda Miller

When I was in service in World 1 when in France had Bonus plan. But american don't need Bonus the need same as all women of wold need is security Thare are many men very poor parviders & many women poor home manager with house full of children with too small of income

Every mother need hospitail at Birght & weekly income to fed he oft springs. in some case adive in rearing of her children and home for thoe health. allso yearly health check up. for heath of nation,

When growning can be help to nation in time of meed.

Your's
E. F. Elick
913 E Victoria
So Bend 14 Indiana

## SELECTED WOMEN'S BUREAU REPORTS - WORLD WAR II PERIOD

(A file set of this material is available for review in the Statistical Branch. Copies are not to be taken from the room, but may be obtained from Miss McGraw)

### Series of Defense Period Industry Studies

1. Bulletin #189-1 - Women's Factory Employment in an Expanding Aircraft Production Program (May, 1941)
2. " 189-2 - Employment of Women in the Manufacture of Small Arms Ammunition (June, 1941)
3. " 189-3 - Employment of Women in the Manufacture of Artillery Ammunition (June, 1941)
4. " 189-4 - The Employment of and Demand for Women Workers in the Manufacture of Instruments-Aircraft, Optical and Fire-Control, and Surgical and Dental (Nov. 1941)
5. Special Bulletin #1 - Effective Industrial Use of Women in the Defense Program ('40)

### Wartime Employment of Women

### Selection and Induction of Women in War Industry Plants

6. Special Bulletin #12 - Choosing Women for War Industry Jobs (March, 1943)
7. " " 14 - When You Hire Women (1944)

### Series of Special War Industry Studies

8. Bulletin #192-1 - Women's Employment in Aircraft Assembly Plants in 1942
9. " 192-2 - Women's Employment in Artillery Ammunition Plants in 1942
10. " 192-3 - Employment of Women in the Manufacture of Cannon and Small Arms in 1942
11. " 192-4 - Employment of Women in the Machine-Tool Industry, 1942
12. " 192-5 - Women's Employment in the Making of Steel, 1943
13. " 192-6 - Employing Women in Shipyards, 1943 (published 1944)
14. " 192-7 - Women's Employment in Foundries, in 1943 (published 1945)
15. " 192-8 - Employment of Women in Army Supply Depots in 1943 (published '45)
16. " 197 - Women Workers in Some Expanding Wartime Industries, New Jersey, 1942

### Employment of Women on Farms

17. Special Bulletin #8 - Guides for Wartime Use of Women on Farms (1942)
18. Bulletin #199 - Successful Practices in the Employment of Nonfarm Women on Farms in the Northeastern States, 1943
19. Bulletin #204 - Women's Emergency Farm Service on the Pacific Coast in 1943.

### Special Occupations or Groups of Women War Workers

20. Special Bulletin #19 - The Industrial Nurse and the Woman Worker (published 1944)
21. " " #16 - The Woman Counselor in War Industries (published Feb. 1944)
22. Bulletin #205 - Negro Women War Workers (published 1945)
23. Special Bulletin #13 - Part-Time Employment of Women in Wartime (June, 1943)

### British Reports on Women War Workers

24. Bulletin #200 - British Policies and Methods in Employing Women in Wartime (1944)
25. (Mimeograph) - Women in War Industries in Great Britain (Oct. 1941)

### Prospects of Women Workers in Post-War Period

26. Special Bulletin #20 - Changes in Women's Employment During the War (June, 1944)
27. Bulletin #201 - Employment Opportunities in Characteristic Industrial Occupations of Women (1944)
28. Special Bulletin #18 - A Preview as to Women Workers in Transition from War to Peace.

## Working Conditions for Women in War Plants

### Occupational Hazards, Safety and Health Problems

29. (Mimeograph) - Women's Wartime Occupational Hazards (March 1943)
30. Special Bulletin #7 - Hazards to Women Employed in War Plants on Abrasive-Wheel Jobs. (1942)
31. " " #2 - Lifting Heavy Weights in Defense Industries (published 1941; revised 1946)
32. (Mimeograph) - The Work of Women on Pneumatic Tools (March 1944)
33. Special Bulletin #3 - Safety Clothing for Women in Industry (May 1941)
34. " " 9 - Safety Caps for Women in War Factories (Oct. 1942)
35. " " 10 - Women's Effective War Work Requires Good Posture (1943)
36.

### Plant Facilities

36. Special Bulletin #4 - Washing and Toilet Facilities for Women in Industry (1942)

### Hours of Work

37. Special Bulletin #6 - Night Work for Women and Shift Rotation in War Plants (June 1942)
38. " " #5 - Women's Effective War Work Requires time for Meals and Rest (May 1942)
39. (Mimeograph) - The Effect of Rest Periods on Output (May 1944)
40. Article during World War II - Recommended Hours for Maximum War Output (Labor Output (Labor Information Bulletin - Aug. 1942)
41. Bulletin #208 - Women's Wartime Hours of Work - The Effect on their Factory Performance and Home Life (published 1946)

### Equal Pay

42. Bulletin #196 - Equal Pay for Women in War Industries (Oct. 1942)

## Community Facilities for Wartime Women Workers

43.

43. Special Bulletin #15 - Community Services for Women War Workers (Feb. 1944)
44. " " 17 - Progress Report on Women War Workers' Housing (April 1943; published 1944)
45. Article during World War II - Labor Information Bulletin - "Survey Shows How Women War Workers Live (Aug. 1942)
46. Special Bulletin #19 - Boarding Homes for Women War Workers (Jan. 1943)
47. Bulletin #190 - Recreation & Housing for Women Workers: A Handbook of Standards ('42)
48. Wartime Reminders to Women Who Work, The Paying Guest - The Paid Hostess (Jan. 1943)

## Community Facilities for Wartime Women Workers (Cont'd.)

### Migratory Reports

49. Bulletin #198 - Employment and Housing Problems of Migratory Workers in New York and New Jersey Canning Industries (Dec. 1943)
50. " 185 - The Migratory Labor Problem in Delaware (Feb. 1941)
51. (Mimeograph) - The Oyster-Shucking Industry Along Delaware Bay in New Jersey (Oct. 1943) (only copy in McGraw's files)
52. Typed Summary - W.P.A. Study on Defense Migration and Labor Supply (by city) Date of Survey - 1941)

## Other Data on the World War II Period

Mimeographs, Speeches, Radio Interviews, Articles
and Reprints from "Women Workers"

### Employment of Women in the Defense Period

53. (Mimeograph) - Report of the Conference on Vacational Training under the Defense Program Called by the Women's Bureau of the U. S. Dept. of Labor. Nov. 7, 1940
54. (Mimeograph) - Women's Vocational Training Needs in the Defense Industries, Nov. '40
55. (Newspaper Release) - Women at Work - Sepcial Feature Service, Mary Anderson, Dir. Women's Bureau, U. S. Dept. of Labor. Jan. 5, 1941

### Reprints from The Woman Worker":

56. Women Who Can Work in Defense Industries, Sept. 1940
57. Women's Chances for Defense Jobs, Jan. 1941
58. Women Workers and Defense Jobs, Nov. 1940
59. Keep up Standards for Women's Work, July 1940
60. Conference on Training Women for Defense Needs, Jan. 1941
61. Processes Women are Performing in Defense Industries, Jan. 1941
62. More Women Placed in Defense Jobs, July, 1941
63. Women's Part in Manufacturing for Defense, Sept. 1941
64. Defense Program Increases Need for Women Workers, Nov. 1941
65. Article - Women Do Key Work in Defense Manufacturing - "The Woman Worker", Mar. '41.
66. " - Women's Job Chances in Defense and Other Work -" " " p. 5 Nov. '40.
67. Mimeograph - Processes on Which Women Are Now at Work in Defense Industries, Oct. 1940

### Wartime Employment of Women

68. (Mimeograph) - Women in Personnel and Industrial Relations Work in War Industries - March 1943

### Working Conditions for Women in War Plants

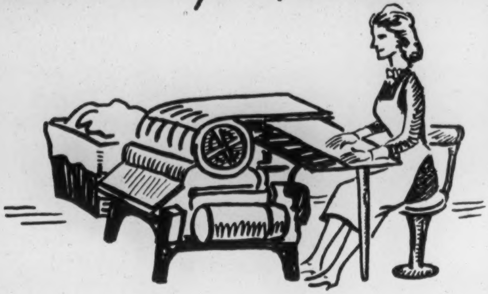
### Occupational Hazards, Safety & Health Problems

69. (Mimeograph) - Safety and Health Problems of Women in Industry, an address delivered by Mary Anderson, Dir., Women's Bureau, U. S. Dept. of Labor, Oct. 27, 1942

### MISCELLANEOUS

70. (Radio Talk) - Mobilization of Facts on Women Workers - Mary V. Robinson, July 27, '40
71. (Radio Interview) - History & Function of Women's Bureau - March 3, 1941
72. (Mimeograph) - Womens Jobs in War Industries - Speech by Mary Anderson, Feb. 6, 1942

# Laundry Operator



## she keeps a nation clean

Homes, Offices, Factories
must be kept
CLEAN

*Laundries Must Have Help!*

Women are needed in laundries
as sorters, checkers,
pressers, markers,
wrappers, inspectors,
and machine operators.

A breakdown in our sanitary
services will mean epidemics
and disruption of war production because of absenteeism. Women in the
factory must have
steady laundry
service.

A clean shirt
means a lot to a man who's been
working on the railroad.

These ***Essential*** Civili
Need ***Women***

*You Can Be a —*

Waitress
Bus driver
Cannery worker
Trolley motorman
Medical assistant
Telegraph messen
Restaurant cash
Laundry operat
Hospital atte
Department st

Do your part and the em
give you these minimu
An 8-hour day
A living wage
A safe, sanitary w

Experience not ne
Training on the
Older women we
Part-time sche

IF

You live in a labor s
Do not now have a
Have no children

THEN

Register at your loca
Service offi
Watch the ads in you

THIS IS TOTAL WAR! EV
A JOB TO D

*What Will You Do Today-*

Civilian Industries
d *Women!*

er
orman
sistant
messenger
nt cashier
operative
al attendant
tment store salesgirl

d the employer should
minimum standards:
day
ge
nitary workplace

e not necessary
on the job
omen welcomed
ime schedules available

IF

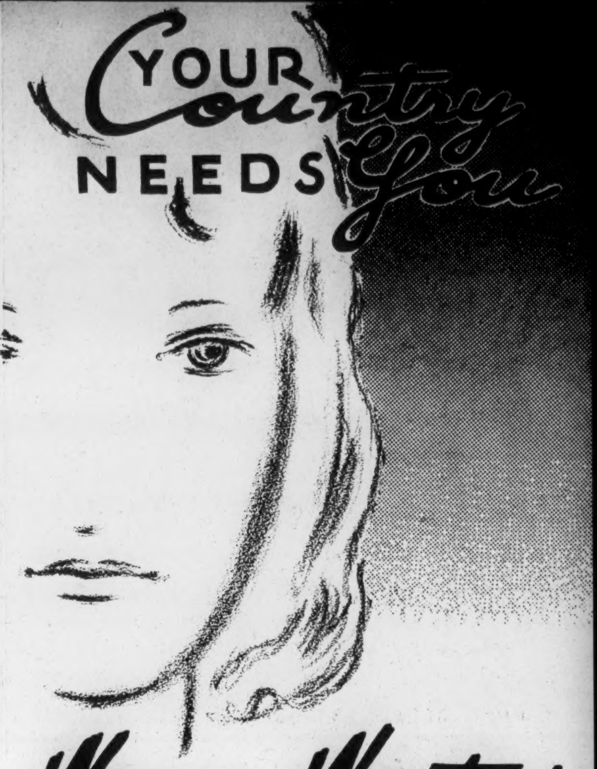
labor shortage area
have a war job
ildren under 14

THEN

our local Employment
ice office
in your newspaper

WAR! EVERYONE HAS
OB TO DO!

*o Today—For Victory?*



# *Women Wanted for the essential Civilian Industries*

**WAR PRODUCTION WORKERS MUST BE BACKED UP BY CIVILIAN DEFENSE WORKERS**

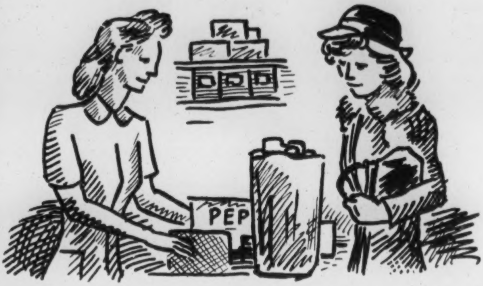
**IN**

**LAUNDRIES**
**HOTELS**
**RESTAURANTS**

**STORES**
**TELEPHONE EXCHANGES**

**U. S. DEPARTMENT OF LABOR**
Frances Perkins, *Secretary*
✓ **WOMEN'S BUREAU** ✓
Mary Anderson, *Director*

# Grocery Clerk



## she keeps supplies moving

Welders in shipyards and
riveters in airplane plants
must have

MEAT BREAD SPINACH ORANGES EGGS

*Groceries must have help!*

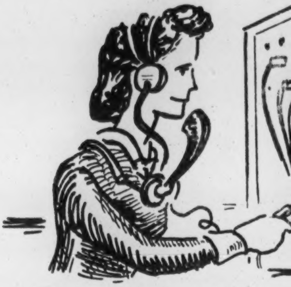
Women are needed in food stores to
serve as cashiers, checkers,
price markers, merchandise
distributors.

The service flag in your grocer's
window means his Men have gone
to war.

HE NEEDS WOMEN TO TAKE THEIR PLACES

The physical well-being of our
country depends on a steady
flow of food supplies. You
can help by working
full or part time
in your local
grocery.

# Telephone Op



## she keeps the l

How long
Could our Army kee
Could our Navy kee

IF THE TELEPHONE LIN

*Communications must*

All war-crowded area
to train and work a
operators

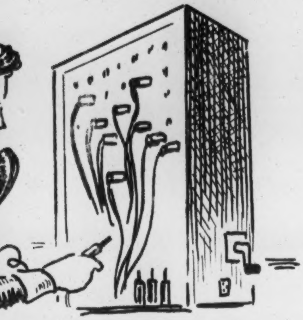
America's telephone
the signals to Amer
forces, industries,
ment offic

IT TAKES 12,000 TEL
TO MAKE ONE B

Modern war demand
that modern commu
can give. Civili
must have telephon

*You Can Se*

# e Operator



## the lines open

ow long
rmy keep moving—
avy keep sailing—
ONE LINES WENT DEAD?

*ons must have help!*

ed areas need women
work as telephone
perators.

lephone lines carry
to America's armed
stries, and Govern-
t offices.

000 TELEPHONE CALLS
KE ONE BOMBER

demands the most
rn communications
Civilians at home
telephone service.

*Can Serve!*

# Waitress

## she keeps workers fed

Millions of war workers
Eat three times a day
in
RESTAURANTS

*Restaurants must have help!*

Women are needed in restaurants
and cafeterias not only as
waitresses but as cooks,
cashiers, and hostesses.

Beating the Axis can depend on
such little things as a steel
worker's lunch. Don't ask
him to do a big job on a
little food! He counts
on good hot meals at
the right place at
the right time.

Feeding America
is one of the most important
problems on the home front.

# The Second Year

## *A Study of Women's Participation in War Activities of the Federal Government*

# *The Second Year*

★ ★ ★

## A Study of Women's Participation in War Activities of the Federal Government

By LUCILLE FOSTER McMILLIN
United States
Civil Service Commissioner

U. S. GOVERNMENT PRINTING OFFICE : 1943

UNITED STATES CIVIL SERVICE COMMISSION
Form 3788—January 1943

# Foreword

An army of over half a million women—soon, perhaps, to reach one million—is now employed in the Federal service. This civilian army comprises women in all grades and types of positions, from charwoman and laborer to the most highly trained professional, scientific, and administrative workers. Certain components of this army have entered occupations hitherto thought impossible for women; all are making contributions to the furtherance of the war effort.

It is the purpose of this study to record the story of women Federal workers during the 12 months ended June 30, 1942. This pamphlet is therefore a sequel to *The First Year: A Study of Women's Participation in Federal Defense Activities*, which contains the story of the achievements of women Government workers during the preceding 12 months.

While it is not possible to record the entire story of the contribution of women to war work in the Federal Government, the record of their participation thus far is one of which the women of America may well be proud.

To the Directors of the 13 United States Civil Service Regions, and to officials of many of the agencies of the Government, grateful acknowledgment is made for an abundance of facts regarding the employment of women in Federal establishments in all parts of the country.

Lucille Foster McMillin

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# War Becomes the Business of Women

Shortly after Pearl Harbor, a woman mechanic helper in the assembly section of the Springfield, Mass., Armory received a certificate of merit for "outstanding performance, ability, and cooperation in line of duty which has resulted in expediting production of the M1 rifle."

In shop 104 of the same armory, a woman inspector of ordnance, the mother of 18 children, had become a real war worker with a perfect "on-the-job" attendance record. Before going on the job, she had obtained her training in a trade school during the day, and at night she worked in a carpet factory to help support her family.

In the sheet-metal shop of the Puget Sound Navy Yard, Bremerton, Wash., a former beauty parlor operator was employed as a sheet-metal helper. In the same yard, high above the shipfitter shop, a former waitress was perched in the cab of a crane, operating the huge machine in a masterly manner. A former woman high rigger in logging operations was painting the buildings about the yard. A mother and daughter worked side by side as radial drill operators.

At Cincinnati, Ohio, women lamp lighters employed by the United States Coast Guard were attending electric battery-operated lights and oil-burning lights on the rivers which converge there.

A young woman who had specialized at college in biology and chemistry was doing a man's job as inspector of powder and explosives in the Iowa Ordnance Plant at Burlington, Iowa.

A woman, said to be the first woman engineer in the United States Army Signal Corps, was on the job as a radio-telephone operator at Fort Monmouth, N. J.

These are only some instances of the unique and picturesque work performed in 1942 by thousands of women civil-service employees in the Government's navy yards, arsenals, ordnance plants, and other military establishments.

By June 1942, the demands, first of the defense program and, after Pearl Harbor, of the war effort, necessitated the employment of 558,279 women in the Federal civil service, as compared with 266,407 in June 1941. This army of over half a million women represents an increase of 110 percent in 12 months in the number of Federal positions held by women, as compared with an increase of 49 percent in the number held by men and of 61 percent in the total number of Federal employees. The much larger proportionate increase in the number of women shows their employment was releasing men for military duty in substantial numbers.

In the First World War, civilian employment in the executive branch of the Government had reached a total of 917,760 employees at the signing of the Armistice on November 11, 1918. Just how many were women has never been fully determined, but it has been established that in the 2 years of the war period women received nearly 75 percent of the appointments to Washington. In the field branches of the Federal service, the proportion was about 1 woman to 2 men.

After the First World War, the ranks of Government workers were gradually reduced, and the number of women employees decreased accordingly (82,180 women employees on June 30, 1925). Only a gradual increase occurred during the next few years (88,856 in June 1930), followed in the next 5-year period by a vast emergency expansion in Government functions and a further increase in the number of women employees (120,777 in June 1935).

Then came the rearmament program (1940). Government and industry applied this principle: Employ more women in jobs which, because of the withdrawal of men to the armed forces, cannot be filled by qualified men.

In June 1940 there were 186,210 women in the Federal executive civil service. In 6 months, their number had grown to 227,377, and by June 1941 there were 266,407 women workers—an increase in 12 months of more than 80,000.

A very conservative estimate placed the number of women employees in the Federal service at more than 300,000 on December 31, 1941.

When Japan attacked Pearl Harbor on December 7, 1941, production became the grand strategy of America. Production, now, was not a matter of preparedness, or of defense. Production, now, was vital—vital in the literal meaning of the word, for production must be ever greater, ever faster, to save America's life, to save the lives of America's men, who were fighting to save that life.

As the men left in steadily growing numbers for the fighting services, women took their places at the machines, whether those machines were in Government or private war factories. As new machines were installed in Government and private war plant expansion, women came to fill the new jobs. As peacetime industry was converted to war production, yet more women took their stations on the production line.

In the Federal service, the total number of women employees increased at the average rate of 43,000 a month. As already noted, there were 558,279 women in the service on June 30, 1942. They were occupying 25 percent of all Government jobs—the highest percentage in the history of the country. More and more, war came to be the daily business of women.

The largest number of women Federal employees were working in the War and Navy Departments. Between June 1940 and June 1941, those departments had increased the number of their women employees by 51,320 and 8,652, respectively, bringing the total to more than 84,000 on June 30, 1941; by June 1942, this number had more than trebled, totaling 331,517.

Of this number, 277,249 or 84 percent were in jobs outside the District of Columbia, such as those in the Ordnance Department at Large (arsenals, proving grounds, districts, and depots), in the Engineer Department at Large, in the Chemical Warfare Service, in navy yards, in flying fields and air stations, in army camps and forts, in naval torpedo stations, and elsewhere.

They were manufacturing gas masks, working as machine-tool operators, mending flags, making uniforms, and performing research work in the field of chemical warfare gases. They were inspecting woven and knitted articles; cleaning and grinding lenses; making heavy fleece-lined suits for pilots. They served as draftsmen and as inspectors of engineering materials. They were being hired as leather and canvas goods workers, and to perform the unique duty of drop-testing and repairing parachutes. Their nimble fingers gave them skill in the manufacture, inspection, testing, and subassembly of delicate parts of time fuzes used in artillery shells.

In addition to the War and Navy Departments, many other agencies were employing women in large numbers. In the Selective Service System more than 16,000 women in the local boards and city and State headquarter offices were enrolling and checking the questionnaires of men who were being called to war. In the Office for Emergency Management 24,000 women were at work in activities related to some of the most important aspects of the war program. In the Treasury Department more than 23,000 women were employed; thousands of them—not in Washington alone, but all over the country—were speeding the sale of war stamps and bonds. And in the Department of Agriculture more than 25,000 women employees were at work, hundreds of them in professional jobs in food laboratories.

Comparative statements on the extent to which men and women were employed in all the departments and independent establishments of the Government (in the District of Columbia and outside the District of Columbia) for the fiscal years ending June 1941 and June 1942 are shown by the table on pages 6 and 7.

# CIVIL EMPLOYMENT IN THE EXECUTIVE BRANCH OF THE UNITED STATES GOVERNMENT, BY SEX

*June 1941 and June 1942*

| Department or Independent Establishment | Total Employees | | In the Washington, D. C., Metropolitan Area | | | | Outside the Washington, D. C., Metropolitan Area | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | | Women | | Men | | Women | |
| | June 1941 | June 1942 (Estimated) | June 1941 | June 1942 (Estimated) | June 1941 | June 1942 (Estimated) | June 1941 | June 1942 (Estimated) | June 1941 | June 1942 (Estimated) |
| Executive Office of the President: | | | | | | | | | | |
| Executive Staff | 1,173 | 1,792 | 491 | 789 | 408 | 623 | 180 | 236 | 94 | 144 |
| Maintenance Force | 98 | 99 | 75 | 75 | 23 | 24 | ........ | ........ | ........ | ........ |
| War Establishments: | | | | | | | | | | |
| Office for Emergency Management [1] | 3,691 | 46,385 | 1,608 | 10,334 | 1,849 | 12,503 | 141 | 11,648 | 93 | 11,900 |
| Office of Censorship | ........ | 9,008 | ........ | 350 | ........ | 281 | ........ | 3,918 | ........ | 4,459 |
| Board of Economic Warfare | ........ | 1,859 | ........ | 862 | ........ | 968 | ........ | 19 | ........ | 10 |
| Coordinator of Information | ........ | 1,560 | ........ | 422 | ........ | 459 | ........ | 318 | ........ | 361 |
| Selective Service System | 16,593 | 26,114 | 102 | 247 | 287 | 452 | 5,699 | 8,882 | 10,505 | 16,533 |
| Departments: | | | | | | | | | | |
| State | 7,009 | 6,904 | 712 | 1,378 | 1,072 | 1,056 | 3,973 | 3,237 | 1,252 | 1,233 |
| Treasury | 65,573 | 67,997 | 8,950 | 12,038 | 11,740 | 12,396 | 33,589 | 32,072 | 11,294 | 11,491 |
| War | 320,291 | 824,698 | 11,836 | 14,400 | 11,340 | 40,050 | 239,118 | 535,298 | 57,997 | 234,950 |
| Justice | 21,401 | 28,129 | 3,681 | 4,092 | 2,414 | 3,173 | 12,800 | 17,570 | 2,506 | 3,294 |
| Post Office [2] | 301,215 | 300,078 | 3,782 | 4,574 | 941 | 980 | 272,471 | 269,980 | 24,021 | 24,544 |
| Navy | 222,862 | 449,042 | 20,484 | 30,794 | 5,043 | 14,218 | 187,487 | 361,731 | 9,848 | 42,299 |
| Interior | 47,980 | 47,355 | 2,804 | 3,726 | 1,697 | 1,675 | 36,866 | 35,427 | 6,613 | 6,527 |
| Agriculture | 91,146 | 92,867 | 6,667 | 4,481 | 6,542 | 6,665 | 59,392 | 62,829 | 18,545 | 18,892 |
| Commerce | 23,896 | 24,234 | 6,775 | 4,669 | 6,841 | 7,490 | 9,411 | 9,869 | 869 | 2,206 |
| Labor | 4,579 | 4,945 | 930 | 637 | 1,486 | 1,605 | 1,405 | 1,884 | 758 | 819 |
| Independent Establishments: | | | | | | | | | | |
| Alley Dwelling Authority | 156 | 219 | 102 | 143 | 54 | 76 | ........ | ........ | ........ | ........ |
| American Battle Monuments Commission | 95 | 7 | 17 | 5 | 3 | 2 | 72 | ........ | 3 | ........ |

|  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|
| Bituminous Coal Consumers' Counsel | 51 | 45 | 30 | 26 | 21 | 19 | ........ | ........ | ........ | ........ |
| Board of Governors, Federal Reserve System | 470 | 461 | 245 | 242 | 203 | 199 | 22 | 20 | ........ | ........ |
| Board of Investigation and Research | ........ | 136 | ........ | 71 | ........ | 65 | ........ | ........ | ........ | ........ |
| Board of Tax Appeals | 135 | 131 | 62 | 60 | 73 | 71 | ........ | ........ | ........ | ........ |
| Civil Service Commission | 6,709 | 7,832 | 1,485 | 1,210 | 2,807 | 3,276 | 863 | 1,531 | 1,554 | 1,815 |
| Electric Home and Farm Authority | 187 | 112 | 25 | 11 | 37 | 19 | 81 | 52 | 44 | 30 |
| Employees Compensation Commission | 526 | 529 | 215 | 15 | 243 | 16 | 27 | 228 | 41 | 270 |
| Export-Import Bank | 31 | 46 | 17 | 25 | 14 | 21 | ........ | ........ | ........ | ........ |
| Federal Communications Commission | 1,414 | 2,041 | 400 | 499 | 376 | 543 | 566 | 895 | 72 | 104 |
| Federal Deposit Insurance Corporation | 2,357 | 2,644 | 253 | 277 | 261 | 293 | 1,133 | 1,278 | 710 | 796 |
| Federal Power Commission | 814 | 870 | 390 | 391 | 171 | 183 | 208 | 248 | 45 | 48 |
| Federal Security Agency | 31,872 | 33,271 | 4,978 | 4,980 | 4,796 | 5,326 | 13,990 | 14,820 | 8,108 | 8,145 |
| Federal Trade Commission | 685 | 639 | 371 | 351 | 222 | 207 | 65 | 56 | 27 | 25 |
| Federal Works Agency | 36,945 | 36,053 | 8,014 | 11,050 | 3,537 | 4,035 | 13,362 | 9,810 | 12,032 | 11,158 |
| General Accounting Office | 5,461 | 7,401 | 3,439 | 4,660 | 2,022 | 2,741 | ........ | ........ | ........ | ........ |
| Government Printing Office | 7,119 | 7,717 | 5,712 | 6,192 | 1,407 | 1,525 | ........ | ........ | ........ | ........ |
| Interstate Commerce Commission | 2,799 | 2,644 | 1,350 | 1,195 | 653 | 617 | 605 | 652 | 191 | 180 |
| Maritime Commission | 2,157 | 5,314 | 774 | 1,081 | 487 | 1,223 | 813 | 2,828 | 83 | 182 |
| National Advisory Committee for Aeronautics | 1,245 | 2,603 | 48 | 44 | 42 | 88 | 1,024 | 2,197 | 131 | 274 |
| National Archives | 422 | 525 | 255 | 318 | 155 | 193 | 8 | 9 | 4 | 5 |
| National Capital Park and Planning Commission | 30 | 24 | 25 | 19 | 5 | 5 | ........ | ........ | ........ | ........ |
| National Housing Agency | 15,500 | 13,970 | 2,387 | 1,858 | 1,964 | 2,203 | 6,446 | 6,104 | 4,703 | 3,805 |
| National Labor Relations Board | 882 | 997 | 243 | 232 | 177 | 200 | 250 | 325 | 212 | 240 |
| National Mediation Board | 73 | 77 | ........ | 28 | ........ | ........ | 38 | 12 | 35 | 37 |
| Panama Canal | 36,425 | 32,986 | 164 | 231 | 20 | 18 | 33,591 | 30,337 | 2,650 | 2,400 |
| Railroad Retirement Board | 2,213 | 1,806 | 805 | 10 | 789 | 8 | 437 | 1,004 | 182 | 784 |
| Reconstruction Finance Corporation | 5,010 | 5,664 | 1,132 | 1,971 | 940 | 1,062 | 1,765 | 1,304 | 1,173 | 1,327 |
| Securities and Exchange Commission | 1,678 | 1,439 | 841 | 9 | 463 | 10 | 265 | 939 | 109 | 481 |
| Smithsonian Institution | 869 | 845 | 671 | 653 | 198 | 192 | ........ | ........ | ........ | ........ |
| Tariff Commission | 292 | 320 | 169 | 186 | 114 | 125 | 8 | 8 | 1 | 1 |
| Tennessee Valley Authority | 23,006 | 40,867 | 4 | 4 | 6 | 6 | 21,678 | 38,509 | 1,318 | 2,348 |
| Veterans' Administration | 42,948 | 43,984 | 2,602 | 2,707 | 3,815 | 3,957 | 25,724 | 26,300 | 10,807 | 11,020 |
| Other | 67 | ........ | 11 | ........ | 16 | ........ | 37 | ........ | 3 | ........ |
| TOTAL | 1,358,150 | 2,187,285 | 106,133 | 134,622 | 77,774 | 133,142 | 985,610 | 1,494,384 | 188,633 | 425,137 |

[1] Includes Office of Price Administration.

[2] Excludes 19,685 temporary substitutes.

The number of women employed by Federal agencies in the various Civil Service Regions is shown on page 9. A comparison of the figures for June 1942 with those for June 1941 shows that the number of women Federal employees has more than doubled in every Civil Service Region of the United States.

In the First World War the work of women in industry, particularly in the Government's industrial establishments (arsenals, navy yards, etc.), was concerned primarily with jobs which could easily be divided into simple, repetitive operations, requiring only those techniques which were adaptable to their quick, nimble fingers. Highly skilled jobs, under this system, were so divided that they could be performed entirely by *unskilled* labor.

While the same system of simple, repetitive operations is used in the employment of women in this war, women have, during the past 2 years, found many opportunities for new kinds of endeavor, particularly in the crafts of the airplane industry.

Women were being called to fill jobs in plants where "men only" had been used before—jobs in the *skilled* trades which were being vacated by *skilled* manpower on its way into the military services—jobs which had to be filled and the work continued in order to build the implements of war.

To build up the qualifications required in the performance of these jobs, many systems of training were established and utilized. Women enrolled in training courses sponsored by the U. S. Office of Education. These courses were conducted in vocational schools and colleges throughout the country.

# GEOGRAPHICAL DISTRIBUTION OF WOMEN IN THE FEDERAL CIVIL SERVICE

*June 1941 and June 1942*

| U. S. Civil Service Region | June 1941 | June 1942 [1] | Increase |
|---|---|---|---|
| FIRST—Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island | 9,359 | 19,656 | 10,297 |
| SECOND—New York, New Jersey | 21,590 | 45,372 | 23,782 |
| THIRD—Pennsylvania, Delaware | 17,796 | 37,401 | 19,605 |
| FOURTH—Maryland, Virginia, West Virginia, North Carolina, District of Columbia (field-service positions) | 17,778 | 67,566 | 49,788 |
| FIFTH—Tennessee, South Carolina, Mississippi, Alabama, Georgia, Florida, Puerto Rico | 21,900 | 46,028 | 24,128 |
| SIXTH—Ohio, Indiana, Kentucky | 13,869 | 29,156 | 15,287 |
| SEVENTH—Wisconsin, Michigan, Illinois | 15,577 | 32,705 | 17,128 |
| EIGHTH—North Dakota, South Dakota, Minnesota, Nebraska, Iowa | 8,584 | 18,018 | 9,434 |
| NINTH—Kansas, Missouri, Oklahoma, Arkansas | 12,117 | 25,409 | 13,292 |
| TENTH—Texas, Louisiana | 15,118 | 31,777 | 16,659 |
| ELEVENTH—Washington, Montana, Oregon, Idaho, Alaska | 8,471 | 17,780 | 9,309 |
| TWELFTH—California, Nevada, Arizona, Hawaii | 14,538 | 30,521 | 15,983 |
| THIRTEENTH—Wyoming, Utah, Colorado, New Mexico | 5,458 | 11,466 | 6,008 |
| Departmental service [2] | 77,774 | 133,142 | 55,368 |
| On duty in foreign countries | 6,354 | 12,282 | 5,928 |
| TOTAL | 266,283 | 558,279 | 291,996 |

[1] Estimated.

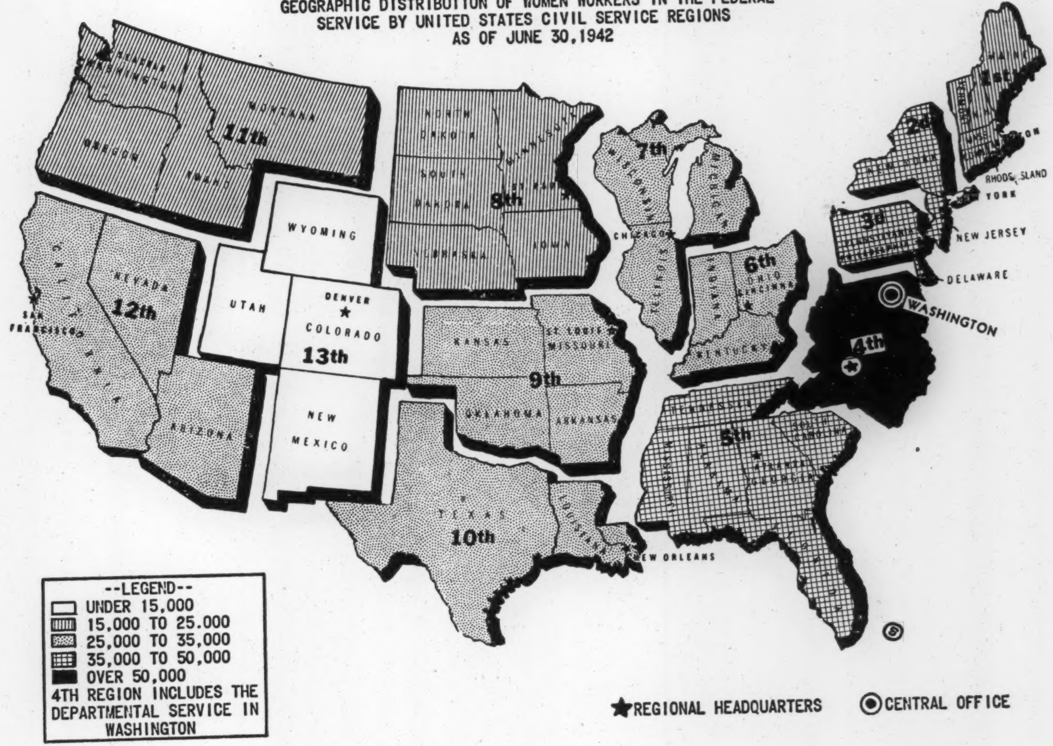
[2] Positions in the headquarters offices of agencies of the Federal Government, in Washington, D. C., and elsewhere.

In-service training courses were given by war-production plants and by Government arsenals, ordnance depots, navy yards, and air stations.

In these courses, women with some previous experience or women who had received preliminary training in a vocational school—or, indeed, women with no experience or training at all—learned by working at the side of skilled mechanics, with supplementary instruction and study under training officers. In this way, they were advanced to more difficult and responsible work, many becoming highly skilled workwomen.

War-production plants, whether Governmental or private, underwent readjustment. It was necessary to expand plant sanitation for the accommodation of women. New health and safety devices and regulations were worked out. Equip-

## GEOGRAPHIC DISTRIBUTION OF WOMEN WORKERS IN THE FEDERAL SERVICE BY UNITED STATES CIVIL SERVICE REGIONS AS OF JUNE 30, 1942


WASHINGTON
OREGON
IDAHO
MONTANA
11th
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
MINNESOTA
IOWA
ST PAUL
8th
WISCONSIN
MICHIGAN
ILLINOIS
CHICAGO
7th
INDIANA
OHIO
CINCINNATI
KENTUCKY
6th
NEW YORK
2d
MAINE
VERMONT
BOSTON
1st
RHODE ISLAND
NEW JERSEY
PENNSYLVANIA
3d
DELAWARE
WASHINGTON
4th
TENNESSEE
SOUTH CAROLINA
ATLANTA
GEORGIA
MISSISSIPPI
5th
KANSAS
MISSOURI
ST LOUIS
OKLAHOMA
ARKANSAS
9th
TEXAS
LOUISIANA
NEW ORLEANS
10th
WYOMING
UTAH
DENVER
COLORADO
13th
NEW MEXICO
CALIFORNIA
SAN FRANCISCO
NEVADA
12th
ARIZONA
--LEGEND--
□ UNDER 15,000
▥ 15,000 TO 25.000
▒ 25,000 TO 35,000
▦ 35,000 TO 50,000
■ OVER 50,000
4TH REGION INCLUDES THE DEPARTMENTAL SERVICE IN WASHINGTON
★ REGIONAL HEADQUARTERS
◉ CENTRAL OFFICE

ment was redesigned so that it could be more easily operated. It was felt that women should not stand while working; if it was necessary for them to stand, they stood on wooden platforms built for their comfort. Shatterproof glass windows were installed through which women might watch their machines and thus avoid flying bits of metal. Extra precautions were necessary to guard against their clothing being caught in the machines.

It was forecast in *The First Year* that the most diversified types of positions held by women in the Federal service during the emergency would be those on the production lines of the Government's armament industries. It was believed that the largest number of women war workers would be found in the arsenals, the ordnance depots, the proving grounds, and the navy yards, and on army and navy airfields. At the same time, it was predicted that the number of women then engaged in national-defense activities would seem small, indeed, in comparison to the number who would be employed in similar work in the event of a declaration of war by this country.

These predictions have come true. The number of women employees in Government war plants has grown twofold, threefold, fourfold, even in some cases tenfold, and the duties which were then unusual have now become hard, routine jobs.

What are the women doing who are now at work for the Government in these activities? Where are they doing it? How did they get their jobs? It is with this particular group of women in the country's vast mobilization of womanpower that this study is primarily concerned.

# What Supervisors Think About Women Mechanics

Almost without exception, officials in Government agencies speak in laudatory terms of the work performed by women in the various mechanical trades.

At first, however, some appointing officers "did not think much of the idea of hiring women for manual occupations." They were by no means enthusiastic about employing women in jobs usually held by men. They felt that friction might be caused in the shops by the replacement of men by women; that time might be lost when women first came to work because of the novelty of having them in the shops dressed in slacks. Some felt that it might be desirable to start the women at a slightly lower rate of pay than that which the men received in order to avoid dissatisfaction among the men if the women were at first assigned to lighter work at the same pay; some felt that a few "good" workers might be produced; some felt it was "experimental"; a few did not appear to think that any considerable replacement of men by women would be necessary "this year."

There were those, nevertheless, who believed that the immediate future would see a great change in the number of women employed; that there would be no limit to the part which women would take in the war program; that the question was no longer which sex was superior on the job, but which was available. They appeared willing to accept the fact that it would be necessary and even desirable to employ women wherever it was at all possible. They believed that every effort should be made to recruit and train women workers in order that they might be available to fill "critical jobs" in their plants, if these jobs were vacated by men called to military service.

In the reports received from the field on the increased use of women in skilled trades positions, especially in a "learner" or "trainee" capacity, there is every indication that (*a*) many positions formerly filled by men can be handled efficiently by women; (*b*) Government agencies are willing to employ women in any position; (*c*) women receiving the same pay as men for the same work try harder and put out more work; (*d*) objection to the use of women in positions for which they are physically and temperamentally fitted cannot be justified; (*e*) the trend to employ women as replacements where men were formerly preferred is noticeably stronger as it becomes necessary to release men in even larger numbers for service in the armed forces; (*f*) the spirit and morale of men is lifted by the infiltration of women workers; and (*g*) once the novelty of having women in the shops wears off, things get back to normal.

It is also reported that appointing officers have discovered that women are (*a*) above the average in patriotism, in interest manifested on the job, and in zeal displayed in performing their assigned tasks; (*b*) more stable, dependable, accurate; (*c*) more attentive to detail; (*d*) equal to men in many positions; and (*e*) even more proficient than men in some lines.

Most shop foremen found that women are (*a*) unusually adept at machine operations of all kinds; (*b*) proficient in precise delicate work on small parts, where manual dexterity is involved, and in repetitive operations (in one case a woman on a small assembly job turned out work at 10 times the speed of her male predecessor); (*c*) more eager to learn; (*d*) consistent in their application to the job at hand; and (*e*) more "durable" (they tire out less easily when engaged continually on one operation).

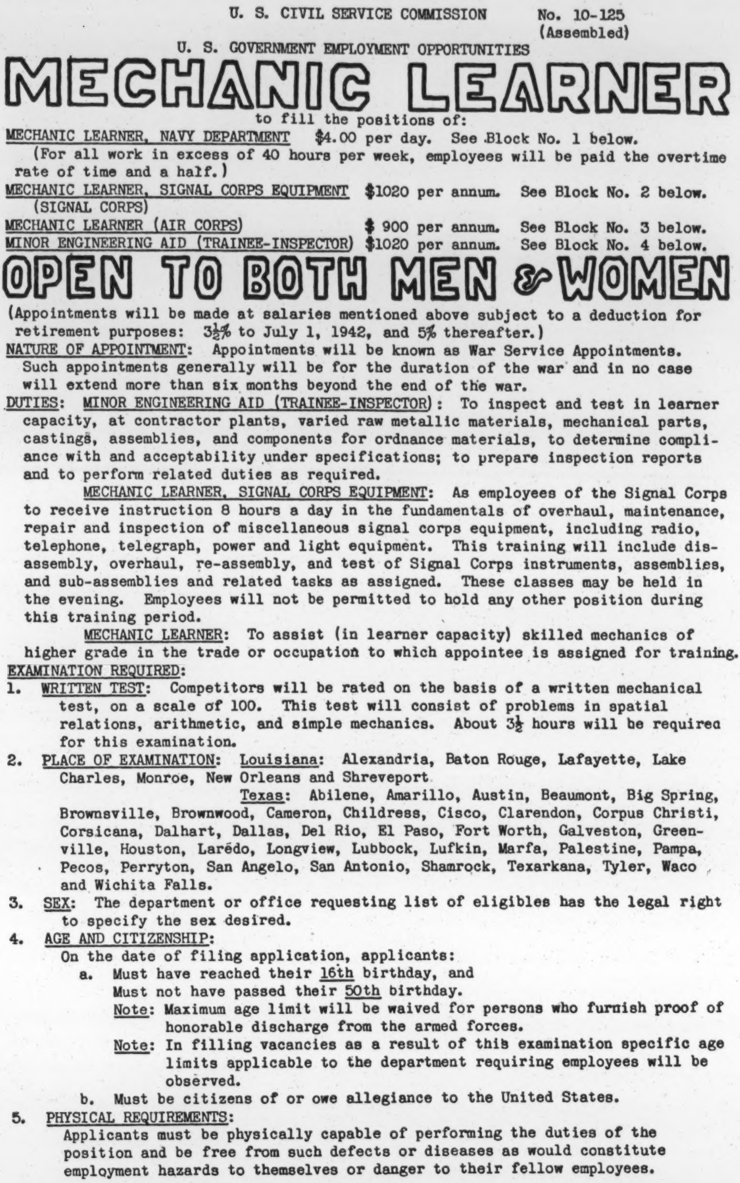
On the other hand, some shop foremen also found that women are (*a*) inferior at bench work; (*b*) slower at using a hammer and chisel, at least skillfully; (*c*) unable to fill positions requiring the physical strength of a man; (*d*) unwilling to accept appointment in some instances because of the lack or the inadequacy of sanitary facilities; and (*e*) not so competent as men in analyzing situations, such as the procedures necessary in determining the repairs needed on a damaged instrument in an airplane, and the method pursued in making such repairs.

# How Women Came Into Government War Plants

Civilian employees for the manufactories, airfields, camps, navy yards, and other establishments of the War and Navy Departments are recruited by the field service of the United States Civil Service Commission, through its 13 United States Civil Service Regions. The huge expansion of the Federal armament plants, together with the accelerated withdrawal of their men employees into military service, resulted in a rapid succession of calls for large numbers of new women employees. To satisfy these calls as rapidly as possible, the 13 Civil Service Regions used all available lists of eligibles—not only those of persons who had qualified in examinations specifically for war-plant positions, but also those of persons who had passed examinations of quite different types, such as those for stenographer, typist, messenger, and hospital and mess attendant.

In the meanwhile, more examinations for war-plant positions were announced and women applied for these in large numbers. These examinations were for such positions as:

Laborer.
General helper.
Aircraft fabric worker.
Examiner, knitted and woven articles.
Leather and canvas worker.
Repairman, mattress and pillows.
Seamstress.
Sewer (machine and hand).
Tent repairman.
Trainee repairman, Signal Corps equipment.
Labor and materials checker.
Property and supply clerk.
Shop checker.
Machine operator: Automatic screw, broacher, driller, grinder, miller, profiler, punch press, shaver, tool grinder.
Mechanic learner (also called shop girl).
Parachute mechanic.
Gas-mask inspector.
Optical worker.
Trainee engineering aid.
Laboratory helper.



U. S. CIVIL SERVICE COMMISSION  No. 10-125
(Assembled)

U. S. GOVERNMENT EMPLOYMENT OPPORTUNITIES

# MECHANIC LEARNER

to fill the positions of:

MECHANIC LEARNER, NAVY DEPARTMENT  $4.00 per day.  See Block No. 1 below.
(For all work in excess of 40 hours per week, employees will be paid the overtime rate of time and a half.)

MECHANIC LEARNER, SIGNAL CORPS EQUIPMENT  $1020 per annum.  See Block No. 2 below.
(SIGNAL CORPS)

MECHANIC LEARNER (AIR CORPS)  $ 900 per annum.  See Block No. 3 below.

MINOR ENGINEERING AID (TRAINEE-INSPECTOR)  $1020 per annum.  See Block No. 4 below.

# OPEN TO BOTH MEN & WOMEN

(Appointments will be made at salaries mentioned above subject to a deduction for retirement purposes: 3½% to July 1, 1942, and 5% thereafter.)

NATURE OF APPOINTMENT: Appointments will be known as War Service Appointments. Such appointments generally will be for the duration of the war and in no case will extend more than six months beyond the end of the war.

DUTIES: MINOR ENGINEERING AID (TRAINEE-INSPECTOR): To inspect and test in learner capacity, at contractor plants, varied raw metallic materials, mechanical parts, castings, assemblies, and components for ordnance materials, to determine compliance with and acceptability under specifications; to prepare inspection reports and to perform related duties as required.

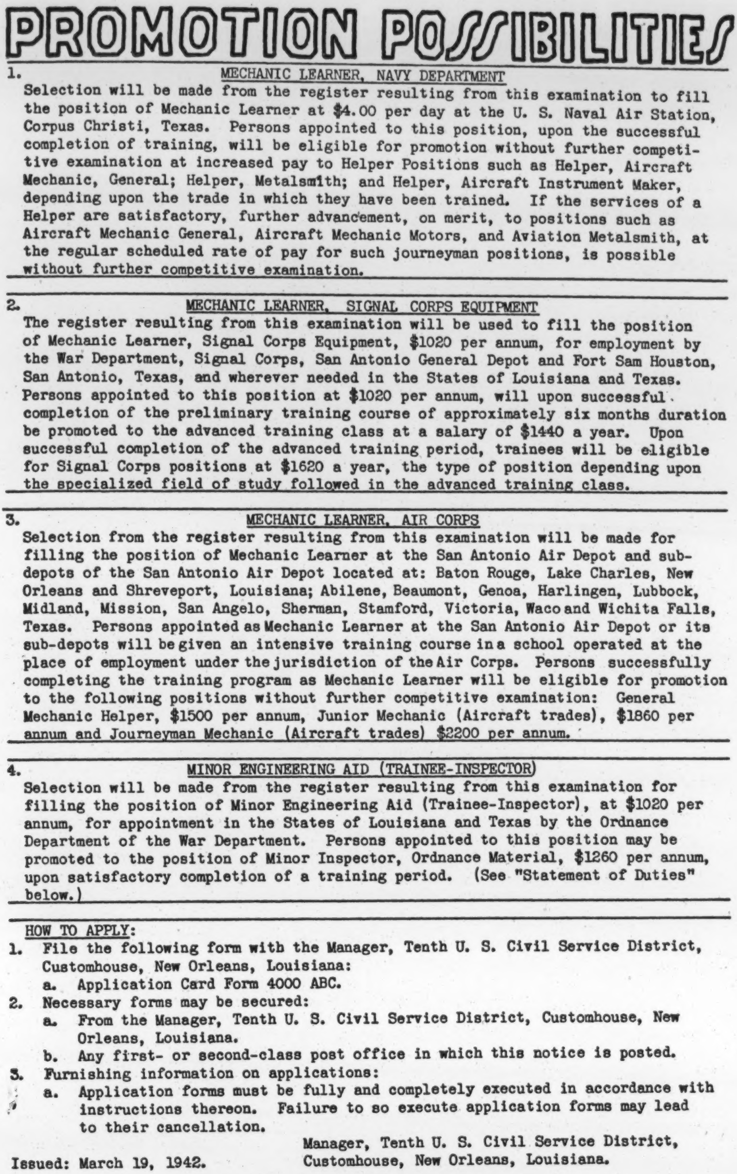
MECHANIC LEARNER, SIGNAL CORPS EQUIPMENT: As employees of the Signal Corps to receive instruction 8 hours a day in the fundamentals of overhaul, maintenance, repair and inspection of miscellaneous signal corps equipment, including radio, telephone, telegraph, power and light equipment. This training will include disassembly, overhaul, re-assembly, and test of Signal Corps instruments, assemblies, and sub-assemblies and related tasks as assigned. These classes may be held in the evening. Employees will not be permitted to hold any other position during this training period.

MECHANIC LEARNER: To assist (in learner capacity) skilled mechanics of higher grade in the trade or occupation to which appointee is assigned for training.

EXAMINATION REQUIRED:

1. WRITTEN TEST: Competitors will be rated on the basis of a written mechanical test, on a scale of 100. This test will consist of problems in spatial relations, arithmetic, and simple mechanics. About 3½ hours will be required for this examination.
2. PLACE OF EXAMINATION: Louisiana: Alexandria, Baton Rouge, Lafayette, Lake Charles, Monroe, New Orleans and Shreveport
   Texas: Abilene, Amarillo, Austin, Beaumont, Big Spring, Brownsville, Brownwood, Cameron, Childress, Cisco, Clarendon, Corpus Christi, Corsicana, Dalhart, Dallas, Del Rio, El Paso, Fort Worth, Galveston, Greenville, Houston, Laredo, Longview, Lubbock, Lufkin, Marfa, Palestine, Pampa, Pecos, Perryton, San Angelo, San Antonio, Shamrock, Texarkana, Tyler, Waco and Wichita Falls.
3. SEX: The department or office requesting list of eligibles has the legal right to specify the sex desired.
4. AGE AND CITIZENSHIP:
   On the date of filing application, applicants:
   a. Must have reached their 16th birthday, and
      Must not have passed their 50th birthday.
      Note: Maximum age limit will be waived for persons who furnish proof of honorable discharge from the armed forces.
      Note: In filling vacancies as a result of this examination specific age limits applicable to the department requiring employees will be observed.
   b. Must be citizens of or owe allegiance to the United States.
5. PHYSICAL REQUIREMENTS:
   Applicants must be physically capable of performing the duties of the position and be free from such defects or diseases as would constitute employment hazards to themselves or danger to their fellow employees.

**Front of mechanic learner announcement for recruiting male and female trainees**



# PROMOTION POSSIBILITIES

1. MECHANIC LEARNER, NAVY DEPARTMENT

Selection will be made from the register resulting from this examination to fill the position of Mechanic Learner at $4.00 per day at the U. S. Naval Air Station, Corpus Christi, Texas. Persons appointed to this position, upon the successful completion of training, will be eligible for promotion without further competitive examination at increased pay to Helper Positions such as Helper, Aircraft Mechanic, General; Helper, Metalsmith; and Helper, Aircraft Instrument Maker, depending upon the trade in which they have been trained. If the services of a Helper are satisfactory, further advancement, on merit, to positions such as Aircraft Mechanic General, Aircraft Mechanic Motors, and Aviation Metalsmith, at the regular scheduled rate of pay for such journeyman positions, is possible without further competitive examination.

2. MECHANIC LEARNER, SIGNAL CORPS EQUIPMENT

The register resulting from this examination will be used to fill the position of Mechanic Learner, Signal Corps Equipment, $1020 per annum, for employment by the War Department, Signal Corps, San Antonio General Depot and Fort Sam Houston, San Antonio, Texas, and wherever needed in the States of Louisiana and Texas. Persons appointed to this position at $1020 per annum, will upon successful completion of the preliminary training course of approximately six months duration be promoted to the advanced training class at a salary of $1440 a year. Upon successful completion of the advanced training period, trainees will be eligible for Signal Corps positions at $1620 a year, the type of position depending upon the specialized field of study followed in the advanced training class.

3. MECHANIC LEARNER, AIR CORPS

Selection from the register resulting from this examination will be made for filling the position of Mechanic Learner at the San Antonio Air Depot and sub-depots of the San Antonio Air Depot located at: Baton Rouge, Lake Charles, New Orleans and Shreveport, Louisiana; Abilene, Beaumont, Genoa, Harlingen, Lubbock, Midland, Mission, San Angelo, Sherman, Stamford, Victoria, Waco and Wichita Falls, Texas. Persons appointed as Mechanic Learner at the San Antonio Air Depot or its sub-depots will be given an intensive training course in a school operated at the place of employment under the jurisdiction of the Air Corps. Persons successfully completing the training program as Mechanic Learner will be eligible for promotion to the following positions without further competitive examination: General Mechanic Helper, $1500 per annum, Junior Mechanic (Aircraft trades), $1860 per annum and Journeyman Mechanic (Aircraft trades) $2200 per annum.

4. MINOR ENGINEERING AID (TRAINEE-INSPECTOR)

Selection will be made from the register resulting from this examination for filling the position of Minor Engineering Aid (Trainee-Inspector), at $1020 per annum, for appointment in the States of Louisiana and Texas by the Ordnance Department of the War Department. Persons appointed to this position may be promoted to the position of Minor Inspector, Ordnance Material, $1260 per annum, upon satisfactory completion of a training period. (See "Statement of Duties" below.)

HOW TO APPLY:

1. File the following form with the Manager, Tenth U. S. Civil Service District, Customhouse, New Orleans, Louisiana:
   a. Application Card Form 4000 ABC.
2. Necessary forms may be secured:
   a. From the Manager, Tenth U. S. Civil Service District, Customhouse, New Orleans, Louisiana.
   b. Any first- or second-class post office in which this notice is posted.
3. Furnishing information on applications:
   a. Application forms must be fully and completely executed in accordance with instructions thereon. Failure to so execute application forms may lead to their cancellation.

Manager, Tenth U. S. Civil Service District,
Customhouse, New Orleans, Louisiana.

Issued: March 19, 1942.

Back of mechanic learner announcement

In addition to these examinations, others were held for War Department positions more traditionally occupied by women, such as forelady of laundry department, laundry assistant and operative, cook, dental surgeon's assistant, telephone operator, tabulating machine operator, and alphabetic card-punch operator.

A comparatively small number of women were able to meet the experience requirements of the examinations in the skilled- and semiskilled-trades group. Others were able to qualify by taking Government-sponsored training courses in trade and vocational schools. But the great majority of women on the Government's production lines have obtained their positions through the female trainee examinations conducted by the United States Civil Service Commission in the vicinity of the large Government industrial establishments.

As an example of the requirements for the trainee examinations, and the duties and rates of pay of these positions, an announcement of a mechanic learner examination is reproduced on pages 16 and 17; this examination was announced to secure both male and female trainees to fill vacancies in the positions of mechanic learner (for appointment in the Navy Department, in the Signal Corps, and in the Air Corps) and minor engineering aid (trainee-inspector) (for appointment in the Ordnance Department of the War Department). Similar examinations were held throughout the country. Women who attain eligibility in such examinations are appointed as trainees, and, after receiving "on-the-job" training, they are promoted to better paying positions as semiskilled and skilled workers.

Some idea of the extent to which 12 of these examinations attracted women to the Federal service may be found in the following table—compiled from data submitted by the 13 United States Civil Service Regions. The examinations were announced during the fiscal year ended June 30, 1942. (The tabulation is not complete, for complete reports were not available from all regions.)

## SAMPLE DATA—WOMEN IN SUBPROFESSIONAL, SKILLED TRADES, AND LABORER EXAMINATIONS

*Fiscal year ended June 30, 1942*

| Examination | Women applied | Women qualified |
|---|---|---|
| Attendant<br>(5th, 10th Civil Service Regions) | 5,982 | 5,559 |
| Examiner (Knitted and Woven Articles)<br>(3d, 5th, 10th Civil Service Regions) | 2,808 | 957 |
| Female Trainee (Manual Occupations)<br>(2d, 3d, 4th, 5th, 6th, 7th, 12th Civil Service Regions) | 45,568 | 17,381 |
| Female Trainee (Mechanic Learner)<br>(1st, 2d, 3d, 4th, 5th, 6th, 10th, 12th Civil Service Regions) | 22,339 | 10,404 |
| Helper (General)<br>(3d, 6th, 12th Civil Service Regions) | 2,474 | 1,428 |
| Laborer (Classified)<br>(2d, 3d, 5th, 6th, 10th Civil Service Regions) | 14,967 | 6,668 |
| Laundry Operative<br>(3d, 5th, 10th Civil Service Regions) | 13,217 | 10,251 |
| Machine Operator<br>(3d Civil Service Region) | 3,122 | 1,985 |
| Power Sewing-Machine Operator<br>(2d, 3d, 5th, 10th Civil Service Regions) | 9,682 | 6,013 |
| Sewer Operative (hand embroideress-seamstress)<br>(1st, 3d, 10th Civil Service Regions) | 4,177 | 1,856 |
| Shop Checker<br>(3d Civil Service Region) | 2,019 | 1,459 |
| TOTAL | 126,355 | 63,961 |

Statistics on the number of appointments made from the lists of those who became eligible for positions through participation in these examinations have not been compiled. However, the following sample data show the number of appointments made from some of the lists in certain establishments and in certain areas; they are indicative of the total appointment figures during the fiscal year 1942. It should also be kept in mind that appointments have been made continuously from these and similar lists since that time.

## SAMPLE DATA—WOMEN APPOINTED FROM SUBPROFESSIONAL, SKILLED TRADES, AND LABORER EXAMINATIONS

*Fiscal year ended June 30, 1942*

| Establishment or Region | Women applied | Women qualified | Women appointed |
|---|---|---|---|
| Picatinny Arsenal (Dover, N. J.): | | | |
| Power Sewing-Machine Operator | 1,437 | 693 | 263 |
| Laborer (Classified) | 13,198 | 5,103 | 3,864 |
| Frankford Arsenal (Philadelphia): | | | |
| Machine Operator | 3,122 | 1,985 | 1,765 |
| Fifth U. S. Civil Service Region: | | | |
| Laundry Operative | 8,601 | 7,094 | 2,229 |
| Attendant | 3,553 | 2,983 | 250 |
| Army Air Forces, California and Nevada: | | | |
| Mechanic Learner | 6,218 | 3,079 | 563 |
| Naval Air Station, Alameda, Calif.: | | | |
| Female Trainee, Manual Occupations | 876 | 500 | 200 |
| Quartermaster Depot, Philadelphia, Pa.: | | | |
| Examiner, Knitted and Woven Articles | 2,214 | 628 | 227 |

## EXAMINATIONS WHICH ATTRACTED LARGE NUMBERS OF WOMEN APPLICANTS DURING THE FISCAL YEAR ENDED JUNE 30, 1941

| Examination | Women applied | Women qualified | Women appointed [1] |
|---|---|---|---|
| Apprentice, Arsenal | 3,593 | 3,304 | 173 |
| Attendant | 5,028 | 3,565 | 131 |
| Gas-Mask Assembler | 1,752 | 1,131 | 738 |
| Hospital Attendant | 5,995 | 4,225 | 415 |
| Laborer (Classified) | 7,933 | 7,492 | 2,641 |
| Laundry Assistant | 3,520 | 2,109 | 509 |
| Laundry Operative | 8,352 | 6,964 | 1,424 |
| Machine Operator | 3,741 | 2,565 | 956 |
| Manual Occupations, Trainee | 2,278 | 1,708 | .......... |
| Mechanical Fuze Operator | 1,458 | 554 | 199 |
| Mess Attendant | 4,122 | 2,732 | 329 |
| Operator's Helper (Clothing Factory) | 5,189 | 3,614 | 492 |
| Power Sewing-Machine Operator | 19,056 | 13,470 | 3,755 |
| TOTAL | 72,107 | 53,433 | 11,762 |

[1] Thousands of additional appointments were made from these lists after the close of the fiscal year (June 30, 1941).

It appears from a comparison of these tables that women are more interested in munitions jobs than in the more familiar jobs connected with feeding, clothing, and equipping the army. In all probability, the higher wages paid munitions workers influence the interest trend to a great extent. But it also may be believed that patriotism, the glamor of being "closer to the war," and the opportunity to break away from "women's work" contribute more to the desire to handle bullets than does the thought of financial advantage.

# Women Mechanics in Government War Work

## WAR DEPARTMENT

### ORDNANCE DEPARTMENT AT LARGE

The Ordnance Department at Large designs, makes, or has made, stores, and distributes to the armed forces the guns, ammunition, and ordnance materials necessary to wage war. The work of the department is carried on in the Government's manufacturing arsenals (where munitions are designed and manufactured), at its "proving grounds" (where all such material must meet a standard test for durability and accuracy), and in its supply depots (where the materials are stored pending distribution).

In time of war, these facilities become taxed, and must be greatly extended by the enlargement of ordnance plants. In addition, contracts are let through the 14 ordnance procurement districts of the department to private plants for the manufacture of guns, powder, shells, bombs, and tanks.

On June 30, 1942, there were approximately 50,000 women workers on jobs in the Ordnance Department at Large, War Department, outside of the District of Columbia.

Notwithstanding women's limitation in strength and technical training, ordnance officials are constantly seeking, through training programs, to bring more and more female employees into the department's arms-production work.

On June 30, 1940, around 3,000 women civilian employees were at work in ordnance field establishments. On June 30, 1941, the number was 10,000. During the next 12 months, an increase of 40,000 took place.

The great majority of these women were secured through trainee examinations held by the United States Civil Service Commission to secure eligibles for these positions:

*Trainee Positions*

| | |
|---|---|
| Minor engineering aid | $1,020 a year. |
| Munitions handler | $3.92 a day. |
| Trainee draftsman | $1,020 a year. |
| Operative, mechanical fuze | $3.60 a day. |
| Inspector trainee, ordnance material | $1,440 a year. |
| Mechanic learner | $0.50 an hour, or $900 to $1,080 a year. |
| Subinspector (ammunition) | $3.92 to $4.88 a day. |
| Arsenal apprentice | $3.12 a day. |
| Operator, machine, general | $4 to $4.96 a day. |
| Mechanic's helper | $4.72 to $5.76 a day. |
| Inspector, powder and explosives | $1,620 to $2,600 a year. |
| Precision optical worker | $4.24 to $5.20 a day. |
| Machine operator, graduating and engraving | $4.24 to $5.20 a day. |

*Nontrainee Positions*

| | |
|---|---|
| Classified laborer | $3.52 a day. |
| Power sewing-machine operator | $3.60 to $3.84 a day. |
| Shop checker | $4.32 a day. |
| Storekeeper | $2,000 a year. |

The rates of pay for many of these positions differ in various localities, depending upon the wage rates prevailing in the localities.

### *Arsenals*

About 20,000 women, or two-fifths of the 50,000 women employed by the Ordnance Department at Large, were at work in manufacturing arsenals on June 30, 1942, whereas only 6,000 women were at work in the arsenals on June 30, 1941.

The following résumés of reports by officials of the individual armories, arsenals, and proving grounds reveal more vividly than any general statements can the work, progress, and abilities of the women in these plants.

At the Springfield (Mass.) Armory, out of a total of approximately 2,000 women workers on June 30, 1942 (255 on June 30, 1941), more than 1,500 women were at work in the armory shops. Among them were:

(*a*) Assemblers, engaged in repetitive work on the assembly of minor units involving a small number of parts or standardized methods.

(*b*) Benchwomen, engaged in repetitive work involving miscellaneous filing and burring of outside surfaces, and other surfaces not requiring close tolerances.

(*c*) Mechanical helpers, assisting assemblers in the assembly of minor units requiring no fitting or adjusting.

(*d*) Storekeepers, filling storage bins with a variety of small-arms components from standard packages, and drawing specified quantities of components from storage for delivery to packers.

(*e*) Laboratory aids, testing and calibrating various gages and delicate measuring instruments, making calculations, and submitting reports.

(*f*) Material keepers, engaged in storing, arranging, and issuing various components and the raw materials used in connection with their manufacture; and keeping accurate records in the accounting of stores.

(*g*) Mechanic learners, assisting, in a learner capacity, mechanics of higher grades in the performance of miscellaneous manufacturing and repair work.

(*h*) Machine operators:

Drillers, operating hand or power-feed drill presses using simple jigs. (Tooling, speeds, and feeds are prescribed. However, these drillers may change and adjust cutting tools for simpler jobs. Highly repetitive work is required to medium tolerances.)

Millers, operating the simplest automatic or hand milling machine operations on light to medium weight components to medium and coarse tolerances. (Fixtures, tooling, speeds, and feeds are prescribed and set-ups and tool changes are made by others. Highly repetitive.)

Punch-press operators, on small to medium-sized work, including forming, blanking, and piercing. (Set-ups and adjustments are made by others. May include use of automatic-roll and dial-feed mechanisms, as required. Highly repetitive.)

Tool grinders, grinding simple surfaces encountered in ordinary cutting tools. (Repetitive work is done under some supervision on tools such as plain milling cutters or simple shank cutters.)

(*i*) Packers, counting and packing all types of small parts and assemblies in cartons or cases. (A knowledge of part names is required for accuracy in counting and record keeping.)

(*j*) Shop checkers, keeping records of all components, forgings and stock entering the woman worker's particular manufacturing section, and counting material issued to and received from each machine operator.

(*k*) Shop inspectors, making highly repetitive dimensional inspection of small arms components by means of plug, ring, snap, and other fixed gages.

Most unusual as women's jobs, in the view of armory officials, are those of laboratory aid and toolgrinding-machine operator. One woman is a machine woodworker.

At the Watertown (Mass.) Arsenal 102 women have been appointed as female trainees in the mechanical trades. However, a total of 480 women were employed at the arsenal on May 30, 1942 (251 a year before). All, with the exception of the female trainees, are on jobs commonly filled by women, such as clerk, stenographer, typist, metallurgical laboratory worker, storekeeper, elevator operator, and charwoman.

On May 30, 1942, the Watervliet (N. Y.) Arsenal had 536 women employees on jobs in the "shop" classification (benchwork, assembly, and inspection) which were formerly handled exclusively by men (185 women a year before). The great majority were mechanic learners, tool keepers, and laboratory aids.

On March 14, 1942, a group of 12 girls were appointed as laboratory aids to be trained in the duties of gage checkers. These girls rapidly developed to the point where they were able to check rather complicated gages. Twelve female apprentice draftsmen were in training to become full-fledged shop draftsmen. Women are being trained to run most of the machines operated by men.

The Raritan Arsenal, Metuchen, N. J., is employing women to fill whatever positions they may be qualified for, from laborers to engineers. A female classified laborer examination was announced in which 216 women qualified. The majority of these women will be placed on laborer jobs.

At the Picatinny Arsenal, Dover, N. J., out of a total of 14,635 women who filed applications for the power sewing-machine operator and classified laborer examinations, 5,796 passed, and 4,127 were appointed to positions in the arsenal. The total number of women at work in this establishment on June 30, 1941, was 2,349.

When employment expansion began at Picatinny Arsenal, less than half of the classified laborer positions were filled by women. Now, however, women are constantly being worked into many other jobs formerly believed to be "for men only." As a result, there is now a ratio of four women to three men, and, eventually, it will become three women to one man. Five hundred women are in training as mechanic learners, preparing to become machine operators. Laboratory aids are being appointed and trained as draftsmen and engineering aids.

At the Frankford Arsenal, Philadelphia, Pa., women are far more numerous than they were in the first year of defense, and the positions to which they have been appointed are more varied. On April 30, 1942, more than 6,000 women were employed, compared to approximately half that number a year earlier.

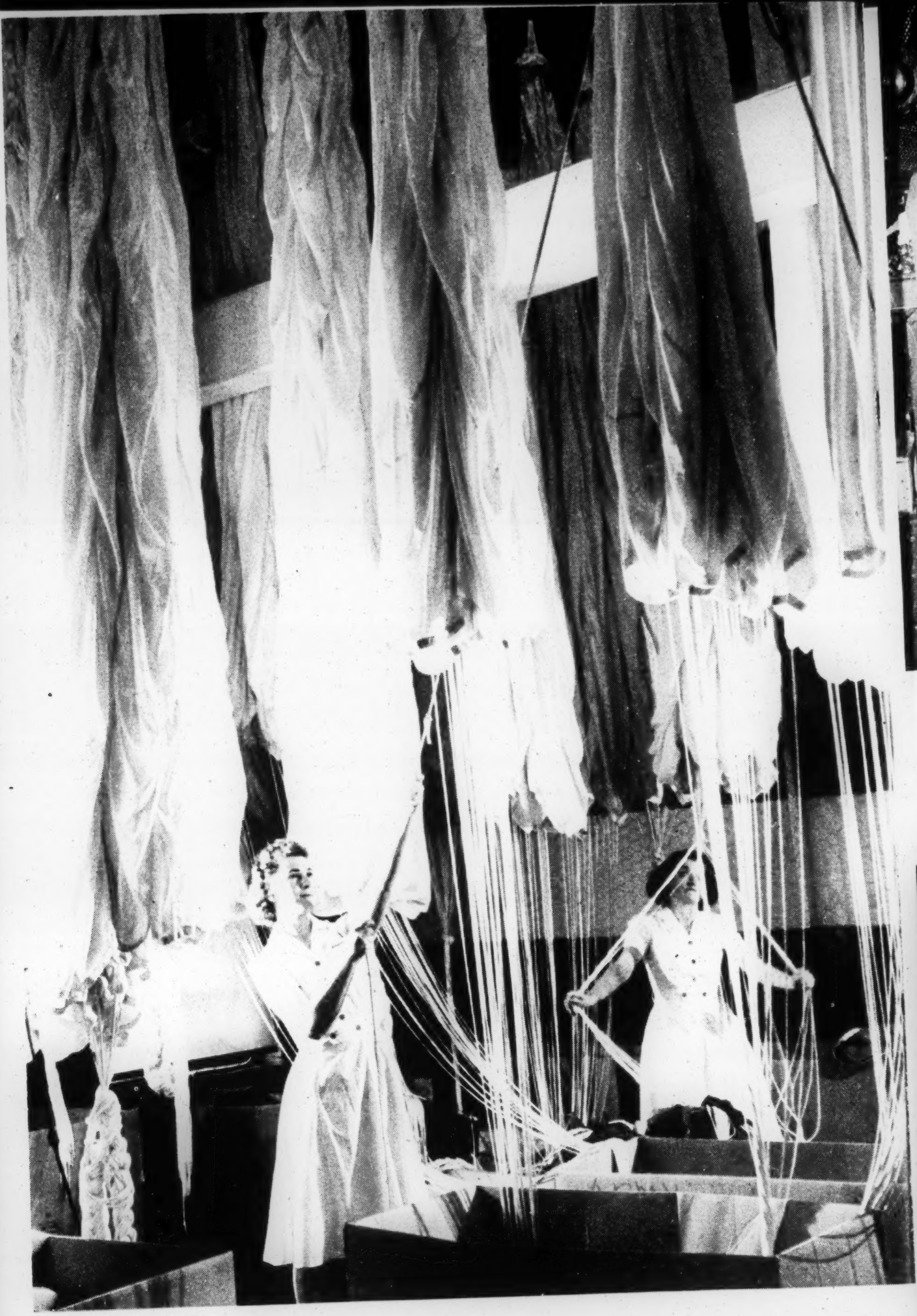
Before the war, women were found on the production line as mechanical time fuze operators; as inspectors and testers; as machine-tool operators and precision optical workers. Now, in addition, they are physicists and chemists, physical science aids, engineering aids, and inspectors of ordnance materials; they check shells and assist in the operation of turret lathes; they pack gages for shipment. Women explosives operators handle and prepare explosive components used in the manufacture of small-arms ammunition by blend-

OFFICIAL PHOTO, U. S. ARMY AIR FORCES

FOR VICTORY

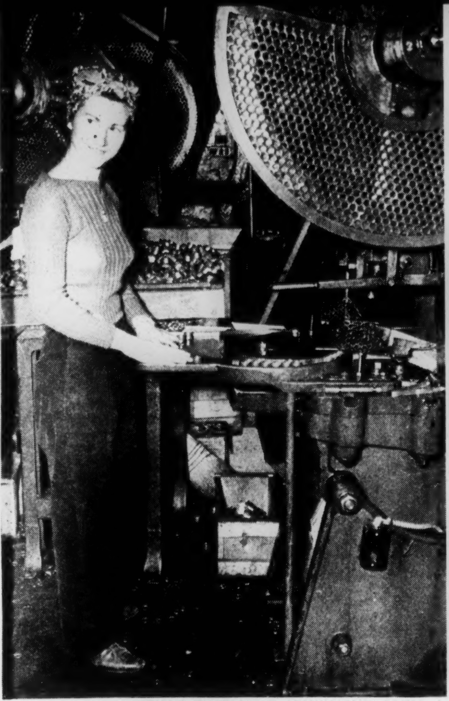
HAND DRILLING A COMPONENT FOR CANNON

OFFICIAL PHOTO, U. S. ARMY SIGNAL CORPS



OFFICIAL O. W. I. PHOTO

PARACHUTES BACK FROM TEST FLIGHTS ARE INSPECTED BY WOMEN WORKERS



OFFICIAL PHOTO, U. S. ARMY SIGNAL CORPS

PUNCH PRESS OPERATOR

OFFICIAL O. W. I. PHOTO

MACHINE OPERATOR

## *WAR BECOMES WOMEN'S DAILY BUSINESS*

WOMEN INSPECTORS CHECK PRIMER HOLES IN AIRCRAFT CARTRIDGE CASES

OFFICIAL O. W. I. PHOTO

OFFICIAL PHOTO, U. S. ARMY SIGNAL CORPS

PRECISION WORKERS ON FIRE CONTROL EQUIPMENT

LOADING MACHINE GUN AMMUNITION IN BELTS FOR SHIPMENT TO THE FRONT

OFFICIAL PHOTO, U. S. ARMY SIGNAL CORPS

ing, mixing, and processing the ingredients of such components. As munition handlers they load (for transportation) and transport from one point to another within the plant, projectiles, grenades, and other forms of ammunition and explosives.

Women subinspectors examine bullets, cartridge cases, primers, and finished cartridges. Hundreds of women are employed as clerks and stenographers, and as messengers laborers, matrons, and janitors.

Authority has been granted officials of the arsenal to employ women as machine adjusters. This authority will be used to provide promotions for women who are found to be especially adapted for such work.

Officials of the arsenal are showing an increasing interest in hiring qualified women to fill junior and assistant engineer positions.

In the Edgewood (Md.) Arsenal, where the bombs were made which fell on Tokyo, more than 2,600 women are at work running drill and punch presses, painting munitions and gas-mask containers with spray-guns, weighing powder, and filling shells. Only 181 women were at work in this establishment before the national emergency. Women are in training as operators of chemical plant equipment. They test the reaction of poison gases on goats and rabbits in order to develop antidotes for the fumes.

Women are inspecting gas masks and chemical warfare material. They are messengers and storekeepers, artists and illustrators. They work in the duplicating plant, operating mimeograph, multilith, multigraph, addressograph, and graphotype machines; and they are faithfully at work as typists, stenographers, accountants, comptometer operators, bookkeeping machine operators, card punch operators, coders, and collators. Women operators of IBM machines keep soldiers' records, and other women make up the local pay rolls.

The Aberdeen (Md.) Proving Ground has also set a notable example in the utilization of women workers. Women chauffeurs run trucks, busses, and cars; women set up velocity screens and run gage tests in the testing and proving of Garand rifles, machine guns, and other guns. Men supervisors say, in hitting the targets, women have a deadlier shooting eye than men.

There are women draftsmen and women mathematical workers who know calculus and can plot the proof-firing results as well as any man. Women automotive mechanics test cars, peeps, jeeps, and trucks, and "road test" tanks by driving them over a half-mile track all day long.

Women tear down and rebuild motors and operate tractors and 15-ton electric cranes. It has been found that they can be taught to do all these things in about half the time it takes to teach men!

At the San Antonio (Tex.) Arsenal 14 women instrument makers are employed in the optical shop as trainees to replace men engaged in the repair, maintenance, and overhaul of fire-control instruments.

Women are also in training to replace men of draft age now engaged in issuing, receiving, and storing ordnance materials.

The Benicia (Calif.) Arsenal employs 334 women (70 a year ago) as munition handlers and storekeepers in its link loading plant. These women open boxes of loose shells and assemble the shells in clips. They repack and solder the boxes for transportation. It is estimated that 1,500 women will soon be engaged in this work.

### *Ordnance Procurement Districts*

Typical of the increasing percentage of women employees in the Ordnance Department at Large is the increase which was charted in the Springfield (Mass.) Ordnance District (comprising the State of Connecticut and the Counties of Berkshire, Franklin, Hampden, and Hampshire in the State of Massachusetts):

### ALL POSITIONS

| Date | Men | | Women | |
|---|---|---|---|---|
| | Number | Percentage | Number | Percentage |
| February 1941 | 326 | 78.0 | 92 | 22.0 |
| December 1941 | 989 | 63.4 | 570 | 36.6 |
| May 1942 | 1,291 | 45.9 | 1,524 | 54.1 |

### INSPECTORS OF ORDNANCE

| Date | Men | | Women | |
|---|---|---|---|---|
| | Number | Percentage | Number | Percentage |
| January 1941 | 283 | 91.3 | 27 | 8.7 |
| December 1941 | 829 | 78.9 | 221 | 21.1 |
| May 1942 | 976 | 55.2 | 792 | 44.8 |

Employing officers are endeavoring to bring more women workers into employment in the district as inspectors of ordnance. They also recently started a gage school for women for the purpose of training them as gagers.

The outstanding position held by a woman in the district is that of chief of the traffic division. She has approximately 50 employees under her supervision.

Boston Ordnance District: Five hundred and forty-eight women were at work in the district on May 31, 1942, compared to 31 on May 31, 1941. Seventy-nine were minor inspectors of ordnance materials; 51 were minor and assistant engineering aids; 1 was a junior engineer; 3 were assistant laboratory aids; 6 were junior attorneys; 1 was an assistant attorney; 321 were clerks, stenographers and typists. The remainder were telephone and teletype operators, messengers, and office-machine operators.

Philadelphia Ordnance District: On May 30, 1942, it was estimated that from 2,000 to 3,000 women were employed by the Philadelphia district office of the Ordnance Department at

Large. The women were used to a large extent in clerical positions. However, through a number of female trainee examinations announced to secure minor engineering aids and mechanic learners (17,140 women applied for the examinations and 5,529 qualified), minor engineering aids were appointed in the district at a salary of $1,020 a year. Following their appointment, the women were trained for the position of minor inspectors of ordnance materials at $1,260 a year. Their duties consist of inspecting and gaging metallic parts. Women were also recruited for the position of junior inspector of ordnance materials (trainee). After training, appointees may be promoted to positions paying $1,620 a year. Women also operate duplicating and calculating machines in the district office.

Birmingham (Ala.) Ordnance District: On May 30, 1942, 14 women were employed as minor engineering aids. These women were trained in the use of gages and simple measuring devices to become inspectors of ordnance in private contract ordnance plants.

Cleveland (Ohio) Ordnance District: Approximately 400 girls are employed in the district as minor engineering aids. Upon appointment they were assigned to various plants where they were trained; many of them have progressed to the point where they are now working as minor inspectors of ordnance materials. One woman, a laboratory aid in the gage laboratory, is performing unusual technical work which is experimental in character and requires a broad educational background.

Cincinnati (Ohio) Ordnance District: More than 4,000 women were at work in the district on May 30, 1942. Slightly fewer than 500 women were at work in the same district on June 30, 1941. Of the total, 787 are engineering aids, laboratory technicians, inspectors, purchasing agents, and scientific aids; over 3,000 are clerks, stenographers, and typists, and operators of office machines.

Chicago Ordnance District: On June 1, 1942, approximately 700 women were at work on jobs in the various ordnance plants in the district. (A year before there had been none.) Five hundred were working as engineering aids and inspectors of ordnance, 100 as laborers, and 100 as explosives operators. In line with the policy of the district to use more and more women to fill critical positions, qualified women are wanted at the rate of 100 a month to fill vacancies in the positions of junior inspector (trainee), minor inspector (trainee), and minor engineering aid.

Twin Cities (St. Paul and Minneapolis) Ordnance District: In the Twin Cities, women are engaged in routine inspection work in plants, privately owned and operated, which make various parts going into the manufacture of ordnance. Women inspectors are under the supervision of a resident inspector. They must work to tolerances measured in two-thousandths of an inch.

San Francisco and Los Angeles Ordnance Districts: On June 30, 1942, 15 junior inspectors of ordnance materials—all women—were at work in these two districts. They were engaged in inspecting the manufacturing processes and the completed articles made by private concerns under contract with the Ordnance Department at Large. Future vacancies in the districts will be filled for the most part by women.

Milan (Tenn.) Ordnance Depot: On May 30, 1942, 62 women were employed in skilled occupations, 60 in clerical work, and 3 as graduate nurses.

Redstone Ordnance Works, Huntsville, Ala.: The Redstone plant loads shells for shipment to storage depots. One hundred and forty-two women mechanic learners were working on the loading lines on May 30, 1942. These women (usually with a grammar-school education) were recruited to a large extent from textile and hosiery mills, where they had been operating small knitting machines, looms, and hosiery machines.

The women use "go" and "no-go" gages on the loading lines. If the shell fits in a prepared hole, it "goes." Otherwise, it is "no-go." Many of the women will advance to become operators of automatic screw machines, or under and minor inspectors of ammunition.

Des Moines (Iowa) Ordnance Plant: A female trainee examination was announced to secure minor engineering aids for the Des Moines plant. Six hundred and seventy-seven women applied, 581 qualified in the examination, and by June 15, 1942, 124 had been appointed. The plant manufactures small ammunition, and women inspect small parts which require visual and general gage inspection.

Iowa Ordnance Plant, Burlington, Iowa: At this plant, a woman who graduated with the Bachelor of Science degree in January 1942 has been appointed as an under inspector of powder and explosives. She was chosen for the position by reason of her knowledge of chemistry, biochemistry, and physics. The duties of her job, as set forth in the official job description, are:

> As under inspector, powder and explosives, * * * to inspect the assembly of primers at this plant—check flash hole for fit; gage heads and percussion elements for size; inspect firing plugs for height and diameter, battery cups for shape and length, black-powder charges for weight, staking of bodies to heads; and completed primer for general conformance to specifications; to prepare daily inspection reports for submission to the chief inspector; and perform related duties as assigned.

Women obtained from female trainee examinations are being used on the plant's components line. Their duties are similar to those outlined in the description above. Officials of the plant feel that it will be difficult to find many women with the high qualifications of the graduate first employed. However, they are attempting to fill vacancies with women who have had factory experience.

Denver (Colo.) Ordnance Plant: Eighty-three women have been appointed to positions requiring light manual labor. These women were obtained from a register of eligibles obtained through a female trainee, manual occupations examination.

Pueblo (Colo.) Ordnance Depot: Approximately 600 women pack ammunition into cases. This plant began operations July 1, 1942.

Umatilla Ordnance Depot, Hermiston, Oreg.: A new plant, not yet in operation a full year. On June 1, 1942, there were more than 1,800 employees, of whom only 59 were women.

Most of the women employees serve as clerks. One girl is a storekeeper; one works in the paint shop; one makes blue prints for the subdepot assembly and repair shops.

From 600 to 700 women will soon be employed in the depot's new linking and belting plant. They will be used as floor ladies, machine operators, and packers. They will be used on the supply and shipping lines, and in the paint shop. Here is an excellent example of a type of Federal defense plant which can be staffed almost entirely with women. It is proposed to limit the number of men employed to one or two hundred.

Ogden (Utah) Ordnance Depot: On June 30, 1942, there were 1,416 women at work in the depot (48 on June 30, 1941). Women were at work in the shell loading plants, the fuze loading plants, and in the black powder pelleting plant. They performed such duties as stamping shells, loading link-belts, and measuring powder.

### CHEMICAL WARFARE SERVICE

The employment of women in the making of bombs and bullets filled with deadly gas vapors is gaining in the Chemical Warfare Service.

Again we find a type of work for which women are recruited by means of the trainee examination. Through this examination women may become eligible to fill these positions: Inspector, chemical warfare materials, $4.80 a day; under and minor inspector of materials, 42 to 54 cents an hour; process inspector in the manufacture and assembly of gas masks, 60 cents an hour; chemical plant operator, $6.24 to $7.20 a day; and chemical plant workwoman, $5.28 to $6.24 a day.

Boston Chemical Warfare Procurement District: Four hundred women were on jobs in the district on May 31, 1942—approximately 175 more women than were employed a year before. Twenty percent are occupying office jobs; the remainder were employed in the inspection of gas-mask components, including rubber, metals, and textiles. Women inspect gas-mask assembly operations on the assembly lines.

Recently, 25 women with college training (in such subjects as chemistry, mathematics, and physics), or with equivalent experience along technical lines, were appointed as trainees for the purpose of training them as inspectors of chemical warfare materials. After completing the necessary training (4 to 6 weeks), some were assigned to supervise lower-grade inspectors in the scattered plants of the district. Others were on travel assignment, making inspections at plants where the production rate did not require the presence of full-time inspectors.

Huntsville (Ala.) Arsenal (Chemical Warfare Service): Women are employed as chemical plant workers to assist in the operation of stills, reactors, dryers, centrifuges, and similar equipment used in the manufacture of chemicals. They make minor repairs and adjustments to the equipment. They even supervise chemical plant workmen and laborers who transport and pack chemical munitions.

Women fill all types of munitions with chemical agents, and perform labor incident to the movement of supplies. They conduct simple chemical analyses, operate and maintain automatic temperature and flow-control devices, and keep log sets and other plant records relating to the manufacture of commercial quantities of chemical products.

Rocky Mountain Arsenal, Denver, Colo. (Chemical Warfare Service): Hundreds of women are employed as laborers and inspectors.

Chemical Warfare Service, Los Angeles, Calif.: Two hundred and twenty-three women are engaged in inspecting and passing on chemical warfare materials procured by the service. Nine assistant laboratory mechanics are doing laboratory work, a woman draftsman is engaged on various engineering problems, and there is a woman attorney.

Administrative help is the greatest contribution of women workers in the Engineer Department at Large, War Department. However, some women in the organization are engineering draftsmen, engineering aids, gage readers, attorneys, computers, and minor laboratory helpers. In the skilled and semiskilled trades, women have secured jobs in the department by qualifying in such civil-service examinations as the one for female trainee, manual occupations, announced to secure eligibles for the positions of trainee draftsman, at $1,020 a year, and engineering aid, various grades, from $1,440 to $2,600 a year.

Previous training is required in some of the occupations, such as engineer and architect; but in many cases, in the absence of previous experience, passing a mechanical aptitude test, meeting the physical requirements, and on-the-job training have placed women in good positions. The various types of positions in the several districts are described below.

Philadelphia (Pa.) Engineer District: Approximately 180 women are now employed in the district, as compared to 11 on June 30, 1941. These women are, for the most part, occupying clerical, stenographic, and typist positions, but recent appointments have been made to positions in the subprofessional group, such as draftsman and engineering aid.

Pittsburgh (Pa.) Engineer District: A total of 221 women are employed in the Pittsburgh district (88 on April 30, 1941). Besides holding clerical positions, women are waitresses, cooks, and charwomen.

Gage readers inspect and maintain record tide gages; they read, record, and repair water meters and filter gages; they measure filters and regulate filters. One woman is an attorney for the district.

Norfolk (Va.) Engineer District: Except in the usual clerical positions, women are not widely employed in this district. Only three women are reported as occupying unusual jobs—

one is a boat designer, one is a camouflage draftswoman, and one is a junior architect.

New Orleans (La.) Engineer District: Airport construction, new army camps, and extended district office activities have tripled the number of women employees in the district. A few women are working as draftsmen, and one is an assistant engineer. It is the general policy of appointing officers in the New Orleans district to appoint women to clerical positions vacated by men going into the military service.

Galveston (Tex.) Engineer District: On May 25, 1942, 180 women were at work in the Galveston district, as compared to 103 on August 1, 1941. Women hold clerical positions in all grades up to heads of sections. A few women are in draftsman positions, and two are employed as junior photographers.

New positions and replacements in vacated positions in the clerical grades are being filled by women whenever feasible.

Denison (Tex.) Engineer District: Fifteen and one-half percent of the employees in the Denison district are women. A year ago, 5 percent were women. The positions held are, to a great extent, stenographic and clerical. The personnel of all mail and files sections and of all suboffices is almost entirely made up of women. A few women are engaged in minor drafting duties, in auditing minor financial reports and cost reports, and as messengers and PBX operators.

San Francisco, Sacramento, and Los Angeles (Calif.) Engineer Districts: Twenty women are employed in draftsman positions (various grades) in these districts.

## NAVY DEPARTMENT

In order to alleviate labor shortages resulting from the loss of manpower within its civilian employee ranks, the Navy Department has put aside its almost traditional preference for men as civilian employees in navy yards, and is now placing women in almost any job for which they are fitted.

Women are recruited for navy yard jobs through the helper-trainee examinations. They are employed as mechanical helpers at the rate of $4.72 to $5.68 a day; general helpers at 69 to 81 cents an hour; and primer workers and ordnance workers at $3.92 to $4.88 a day. Women are recruited through the sewer examinations as operators of single- or double-needle power-driven sewing machines at 64 to 76 cents an hour.

Women inspectors of engineering materials and naval ordnance materials are secured through the trainee examinations for the positions of minor inspector (engineering materials), $1,620 a year, and minor inspector (naval ordnance material), $1,440 a year. Positions as junior inspector (engineering materials)—in these optional branches: Steel hulls, mechanical, electrical, and radio—are available for women at $1,620 a year.

Here, again, it should be kept in mind that the rate of pay for these positions differs in various localities, depending upon the prevailing wage rates.

Washington (D. C.) Navy Yard: A detailed description of the types of positions, working conditions, and training programs for women workers in this navy yard will serve as an example of the similar work in the other navy yards of the country, brief summaries of which follow this section.

Qualified women employees, secured from lists of eligibles set up through the trainee examinations, are assigned to various shops in the Washington Navy Yard for training and subsequent promotion to good jobs in activities vital to war production.

On June 30, 1942, approximately 2,000 women were at work in the yard. In all the shops they are first instructed in the safety regulations which must be observed in operating the machines which they are later to use. They learn the names of loose materials, parts, and hand tools. They are taught how to file, store, and issue materials and tools, and how to handle high explosives in accordance with prescribed safety regulations.

Women who accept jobs in the yard must observe certain safety rules in the matter of dress. Jewelry is not allowed. Low-heeled shoes (no open toes), and slack suits or coveralls if possible (except in the optical shop), are prescribed. Loose and flowing clothing is never worn, and a cap, bandana, or other suitable covering over the hair must be worn in order to lessen the hazard of hair being caught in running machinery. Long finger nails are not permitted. All precautions are taken to avoid dermatitis, which is a hazard in these shops because of cutting oils and chemicals. Women assigned to duty in the magazine must not wear underclothing made of rayon, nylon, silk, or wool, as such fabrics collect high static. To prevent this, only cotton fabrics are allowed in work clothing. Rubber overshoes must not be worn in the buildings. All workers are warned that cold, dry days are the most dangerous for static accumulation.

In the sight shop women are placed under competent instructors for training in the reading of drawings and measuring instruments; they are shown how to receive and ship materials out of the shop; they are taught how to care for jigs and fixtures. They learn to operate engraving machines, drill presses, and thread millers, and they are shifted from one machine to another in order to round out this training.

In the assembly and fuze shop they are taught to burr and inspect materials; they wind coils; and they are trained in the use of indicators and gages as called for on the operation sheets on ordnance parts, such as fuzes, torpedo parts, fixtures, and other materials.

In the optical shop women are trained in 14 of the 22 basic operations connected with the manufacture, assembly, subassembly, and inspection of precision ordnance equipment, including optical equipment. In the optical glass section they are trained in the following operations:

(*a*) Hand polishing, assembling coincidence prisms, polishing plano surfaces and lenses;

(*b*) Edge-grinding lenses, glass milling and drilling, inspection;

(*c*) Fine-grinding lenses, fine-correcting plano surfaces, fine-grinding plano surfaces, and glass plate blocking;

(*d*) Plaster blocking, silver-ruling prisms, centering and cementing lenses;

(*e*) Bevel and groove (either prisms or lenses) lens blocking, cleaning and waxing; and

(*f*) Rough-grinding prisms, rough-grinding lenses, and ground surface inspection.

Other women workers in the mechanical assembly section are instructed in ruling and etching; prism scraping and fitting; cleaning and inspection; machine engraving; and bench milling and bench lathing.

In the quiet, professional atmosphere of the optical shop, women in white inspect precision instruments by sighting them against peaceful northern skies. The silvery etched lines on a lens are carefully scrutinized by their keen eyes, for it is on the exactness of these lines that the gunner in some future battle must depend for a true aim as he "frames" his target and opens fire on the enemy.

At the magazine, women are placed under competent instructors for training in a specific fuze-loading operation. Women who master this operation progress to others until they are competent to perform any loading operation in the assembling of fuzes. In the assembling of fuzes they are taught the danger points to watch out for, such as maladjustments and misfits.

In the ordnance electrical shop, women are taught to prepare micro-insulators for the assembly of repaired commutators, and they are trained to operate coil-taping machines. Women prepare wires of predetermined lengths to form cables used on firing and lighting circuits. They are taught to assist armature winders in taping coils for armatures and field coils for motors; to assist in the assembly of details for switches on component parts for gunfiring circuits; and to assist in the final inspection of circuits, and in the preparation of the shipment of the circuits by taping leads together.

• New York Navy Yard: The yard is steadily employing large numbers of women as power sewing-machine operators, female classified laborers, and coat finishers. Women, of course, are filling the great majority of the clerical positions in the yard.

Surveys are under way in the machine shop and material laboratories in an attempt to determine just what jobs women are capable of filling. Upon completion of the survey, the trainee examination will be used to secure qualified women to replace men in various positions, both in the machine shop and in the material laboratories.

Philadelphia Navy Yard: On May 15, 1942, more than 1,100 women were employed in the yard in nonclerical jobs (206 on May 15, 1941); they were employed in laborer positions, in the skilled-trades positions (such as mechanic helper, sewer, aircraft fabric worker, and mechanic learner), and in mechanic supervisory positions. An additional 1,200 women were at work in other occupations in the yard, such as clerk, office-machine operator, messenger, draftsman, blueprint operator, and physical science aid.

Norfolk Navy Yard, Portsmouth, Va.: The artisan shops of the yard increased their number of women employees to approximately 1,000 by the end of 1942. The women at present employed are trainees who work as "on-the-job" helpers in the electrical shops for armature and coil winding; in the tool rooms; in the instrument shops as optical workers; in the paint shops; in the machine shops, where they operate lathes, drill presses, planers, and shapers; in the sheet-metal shops, where they make metal furniture; and in the welding shops. A few women are in training as plumbers.

Crews of women are used to operate electric overhead cranes in the shops. They do this with surprising success, thus releasing for duty the men who are urgently needed for work on the outside.

It is estimated that approximately 1,200 women are employed in the yard in mechanic positions.

Charleston (S. C.) Navy Yard: More than 800 women are employed at this yard—most of them in clerical and administrative positions.

Through the trainee examinations, women have been recruited as draftsmen, and as helpers for coppersmiths, electricians, machinists, pipefitters, riggers, sheet-metal workers, shipfitters, joiners, and shipwrights ($4.72 to $5.68 per day). It was estimated that more than 600 women would be filling these jobs by the end of 1942.

Puget Sound Navy Yard, Bremerton, Wash.: The employment of women in the Puget Sound yard has gone far beyond the experimental stage. Women workers have proved that they can be employed advantageously in a great many positions.

On June 1, 1942, there were 1,675 women at work in the yard (460 on June 1, 1941). Approximately 6 percent of the total employees are women—73 percent in clerical positions and 27 percent in laborer positions.

Women who were formerly beauty parlor operators are now radial drill operators and sheet-metal helpers. Others operate huge cranes; others thread bolts in the shipfitter shop; and still others do precision work with machine tools. Every effort is being made to use women wherever possible.

Mare Island Navy Yard, Vallejo, Calif.: Women are employed as general helpers and as trainees, as follows:

(*a*) Fifty-eight are employed in the shipfitter and welding shop. They weld, operate small cranes, lay out ship plates from blueprints, operate drill presses, and do toolroom work.

(*b*) Six are employed in the sheet-metal shop. They weld, operate engraving machines, buck rivets, do bench work, and run bucket-machine presses.

(*c*) One hundred and twenty-five women are employed in the machine shops. They operate turret lathes, automatic screw machines, drill presses, milling machines, engraving machines, shapers, and small cranes.

(*d*) Fifty-one are employed in the electrical shop. They operate drill presses, punch presses, and small precision lathes; they wind small coils, clean parts, wire, solder, do lens work, assist instrument makers, and test under-water sound equipment.

(*e*) Five are employed in the pipefitter shop as storekeepers in the tool crib, and as gasket trimmers in the rubber laboratory.

(*f*) Four are employed in the boat shop. They operate mortise machines, band saws, and boring machines.

(*g*) Eight are employed in the paint shop and paint-manufacturing plant. They refinish furniture, grind glass, and assist in laboratory and storekeeper duties.

(*h*) Nineteen are employed in the foundry, receiving and storing patterns, shipping small castings, and working with small cores.

(*i*) Twenty-five are employed in the pattern shop, sandpapering, gluing, shellacking patterns, installing fillets, operating small machines and hand tools, and keeping stores.

Naval Torpedo Station, Newport, R. I.: Approximately 1,000 women were at work at the station on June 1, 1942—an increase of more than 700 in a year. While the great majority of these women were in clerical and stenographic positions, a considerable number were employed as mechanic learners, as classified laborers, and as ordnance workers and primer workers. Employees in the two latter groups were appointed from civil-service examinations announced to secure ordnance workers and primer workers for positions paying from $3.92 to $4.88 a day.

Ordnance workers perform various operations involved in the manufacture, subassembly, assembly, and inspection of ordnance material. Primer workers inspect and assemble components of fuzes, primers, tracers, detonators, igniters, and similar ordnance material which may contain explosives or pyrotechnic materials.

Twelve hundred women applied for the examination for ordnance workers, and 530 were found eligible for the job; 632 women applied for the mechanic learner examination, and 363 qualified.

A number of women inspectors of engineering materials ($1,620 a year) perform minor inspection work on precision-machined component parts of ordnance materials, involving

OFFICIAL PHOTO, U. S. ARMY AIR FORCES

INSPECTING AIRPLANE PARTS

OFFICIAL O. W. I. PHOTO

PUTTING DRILL NUTS INTO THE MONACOCK OF AN AIRPLANE

REMOVING BLISTERS IN A BUILDING FORM FOR BULLET-SEALED TANKS

OFFICIAL O. W. I. PHOTO

OFFICIAL O. W. I. PHOTO

ALUMINUM WORKER INSPECTING A SAND CASTING FOR DEFECTS

OFFICIAL O. W. I. PHOTO

PRECISION DRILLER ON STEEL TANK PARTS

OFFICIAL PHOTO, U. S. NAVY

CHECKING AN AIRPLANE MOTOR

# *THE HARD WORK OF WOMEN IN WAR*

WOMEN WORKERS ENGAGED IN REBUILDING AND RE-EQUIPPING TANKS AND TRUCKS

OFFICIAL PHOTO, U. S. ARMY SIGNAL CORPS

TOOL GRINDER AT WORK IN A GOVERNMENT ARSENAL

WELDING PART FOR A COCKPIT

OFFICIAL PHOTO, U. S. ARMY AIR CORPS

the use of "go" and "no-go" gages and dial gages. The women are trained to take over higher-grade inspector positions through the use of precision measuring instruments, such as micrometers, verniers, depth gages, shadowgraphs, and various tensile-strength measuring machines.

Women ordnance workers earning 61 cents an hour during a prescribed training course are in line for promotion to the position of machine-shop precision operative at 73 cents an hour. In this position they perform various operations in the manufacture, subassembly, assembly, and inspection of ordnance equipment, including details for mechanical and electrical equipment, and for ammunition. From this position they may be promoted to the next higher grade at 94 cents an hour; in the latter grade they perform precision operations requiring a high degree of skill in the manufacture, subassembly, and inspection of precision ordnance equipment.

Naval Torpedo Plant, Alexandria, Va.: This is a comparatively new plant and has been using women workers since the first part of 1942 only. Women work 8 hours a day at $1,260 a year, with time and a half for overtime, on thread checking, depth gaging, burring, and engraving numbers on parts. Parts for several different types of torpedoes are assembled in the plant. It is necessary to have a series of numbers for each type of torpedo. The women must memorize each series and be absolutely accurate in placing the correct number on a part in order to make sure that it goes into the right torpedo.

Naval Ammunition Depot, St. Juliens Creek, Va.: Women mechanic learners, secured through the female trainee, manual occupations examination ($4 a day), are trained in the operations incident to the manufacture of ammunition. After completing a prescribed training period, they are promoted to the position of general helper (minimum pay 69 cents an hour). Their principal duties include cutting out and sewing raw silk in the manufacture of powder bags to hold black cannon powder; loading small caliber projectiles; placing the explosive charge in the projectile, and fuzing it; the assembly of medium and minor caliber cartridges; fuze work; and operating drill presses, lathes, and boring machines in the machine shop.

Naval Proving Ground, Dahlgren, Va.: Women trainees assist ordnancemen and mechanical workers.

Naval Mine Depot, Yorktown, Va.: More than 200 women are employed at the depot as mechanic learners, doing light manual jobs of a mechanical nature in ordnance work.

Naval Experiment Station, Annapolis, Md.: Women are employed as engineering aids and as laboratory assistants, performing simple and routine work in the fields of electricity, metallurgy, chemistry, and mechanics.

## FLYING FIELDS AND AIR STATIONS

Women mechanic helpers appointed at $1,500 a year are making good in the flying fields and air stations for the Army and Navy. With compacts and lipsticks in their pockets, they are making records in the operation of turret lathes and gear-cutting machines. They are putting planes in the air with a skill equal to that of many men.

Officials of a naval aircraft factory said that the 300 women mechanic helpers they had on the job were "Grade A," and they would take another thousand immediately if they could find them. "With calm indifference and high efficiency," they said, "these women slam down 10-, 20-, and 100-ton pressure punch presses of which even men are 'leery'."

Women secure jobs in the flying fields and air stations by meeting the physical requirements of a trainee examination and by passing a simple mechanical aptitude test. The examination is announced for the purpose of finding women qualified to fill the position of mechanic learner at various rates of pay ($900 to $1,080 a year). In one such examination, more than 900 women applied for the examination; approximately 500 qualified.

Other examinations announced to secure women workers for flying fields and air stations are listed below, together with the duties of the positions:

***Packer, $1,320 a year.*** Duties: To pack miscellaneous articles.

*Aircraft Fabric Worker, $4.40 to $5.36 a day.* Duties: To cut, sew, fit, and repair fabric coverings of airplane wings, fuselages, control surfaces, and other parts.

*Leather and Canvas Worker, $1,320 to $2,040 a year.* Duties: To perform tasks * * * involved in the fabrication, maintenance, overhaul, alteration, and repair of articles used by the Air Corps which are made of leather or canvas, * * * including parachutes * * *.

*Sheetmetal Worker, $8.08 to $9.04 a day.* Duties: Cutting, filing, and drilling.

*Welder, Gas, $8.08 to $9.04 a day.* Duties: To perform acetylene welding on miscellaneous jobs * * *.

*Storekeeper, $1,260 to $1,440 a year.* Duties: Requisitioning, storing, and packing miscellaneous supplies.

*Aircraft Procurement Inspector, $1,620 to $2,900 a year.* Duties: To conduct inspections in the procurement of aircraft materials, with optional branches in aircraft engines, instruments, parachutes, propellers, tools and gages, radio, textiles, fur-lined clothing, optical and magnetic materials.

*Upholsterer, $8.08 to $9.04 per day.* Duties: To upholster all classes of furniture, automobiles, boats, and airplanes.

*Trainee, Junior Aircraft Communicator, $1,440 a year.* Duties: To provide airmen and other persons concerned with information vital to the safe operation of aircraft by means of radiotelephone, radiotelegraph, teletype, and interphone.

*Aircraft Fabric Seamstress, $900 to $1,200 a year.* Duties: Under supervision, to cut, repair, and fit aircraft fabrics to wings, control surfaces, and other aircraft parts.

The Civil Aeronautics Administration encourages women to file applications for the trainee, traffic controller (airway and airport) examination, which is announced to secure eligibles for traffic controller positions paying $1,800 a year. The duties of these positions are directly related to the safety of human life, and are exacting and responsible. Women who are appointed to these positions receive training in the fundamentals of airway and airport traffic control by performing routine assignments at an airway control center, or an airport traffic control tower.

The work of the women who build and repair airplanes and aeronautical equipment in Federal aircraft plants and flying fields is described in the following section, which summarizes the reports of officials of the individual plants and fields.

U. S. Naval Air Station, Quonset Point, R. I.: Approximately 200 women are employed at the Quonset Point station—as clerks, laborers, mechanic learners, sewers, aircraft fabric workers, and parachute mechanics.

In the assembly and repair department, women are doing an excellent job in overhauling, reconditioning, testing, and inspecting aircraft spark plugs. Women of one group are overhauling, repairing, and reconditioning wings, ailerons, rudders, and elevators. Much practice and skill are required to do this type of work.

A woman parachute mechanic is doing first-rate work in the parachute repair shop. It is reported that, in some respects, she is a better mechanic than some of her fellow male workers. One woman doing aircraft fabric work has been promoted to the position of instructor, and is teaching other women the duties of the aircraft fabric worker position.

Houlton (Maine) Air Base: As the ranks of men employees are depleted by induction into the armed forces, the engineering department of the base anticipates the use of women in mechanic positions. They will be selected from lists of eligibles resulting from the mechanic learner or mechanic helper examination.

Middletown Air Depot, Olmstead Field, Middletown, Pa.: It is believed that this air depot is the largest employer of women in the entire air service. On May 30, 1942, there were 1,610 women at work in the depot, compared to a total of 149 on May 30, 1941. Again, the majority of women are in clerical positions, but women are continuously entering the skilled trades by means of the mechanic learner and the mechanic helper examinations.

During the past year, women have been appointed to the following positions, which they are filling to the entire satisfaction of the officials of the depot: Assistant engineering draftsman, general mechanic's helper, junior blueprint operator, leather and canvas worker's helper, packer, storekeeper, property and supply clerk, and mechanic learner.

Naval Air Station, Norfolk, Va.: Women workers secured through the mechanic learner examination are successfully at work in the fabric shop of the station, where they cut and sew materials for airplane wings (the first woman to be appointed "leading man" of sewers in the station's history is at work in this shop); in the parachute shop, where they inspect parachutes; and in the instrument shop, where they repair, overhaul, and maintain clocks, watches, and other aeronautical instruments, in all cases working with small delicate parts.

In the dope shop, they apply acetate to wing fabric. In the machine shop, they weld, run drill presses, lathes, and cutting machines. In the sewing shop, they "baseball stitch" by hand on metal ribs of wings.

Most of the women are learners in these positions. However, many who have had preliminary training or experience have been appointed as third-class helpers in the various trades. Some women are stationed at the side of skilled male mechanics, where they receive training on engine overhaul, assembly, and disassembly.

Langley Field, Va.: The Langley Memorial Aeronautical Laboratory, under the jurisdiction of the National Advisory Committee for Aeronautics, and the subdepot of the Middletown (Pa.) Air Depot, are located at this field. Approximately 75 women are employed by the two establishments. They are occupying positions of scientific aid, mechanic trainee, mechanic, truck driver, junior aircraft mechanic, junior sheet-metal worker, instrument repairer, and parachute folder and tester.

Women aircraft mechanics and sheet-metal workers shirk no phase of their jobs, no matter how dirty or greasy or heavy. Wearing slacks, coveralls, and overalls, they repair airplane motors and wings with sheet metal. The work includes making and installing the parts, and using the machines and tools required in cutting, fitting, welding, and riveting various metals. These women mechanics disassemble, assemble, maintain, and repair airplanes and airplane engines.

Women instrument workers repair, replace, and test all instruments essential to the proper operation of the airplane by the pilot, the navigator, and the bombardier. Women parachute mechanics test, inspect, repair, fold, and pack parachutes.

Marine Corps Air Station, Cherry Point, N. C.: The Cherry Point station is a comparatively new post. Women are employed as telephone and teletype operators, messengers, and matrons. Many of the key clerical positions are being filled with women.

Army Air Fields and Naval Air Stations of the Fifth United States Civil Service Region (South Carolina, Georgia, Alabama, Florida, Mississippi, Tennessee, Puerto Rico, and the Virgin Islands): Most of the women workers are in clerical positions, but some are serving as physical therapy aids, dental hygienists, nurses, medical technicians, dietitians, laboratory helpers, and librarians. Large numbers of women are employed as laundry workers, seamstresses, attendants, cooks, laborers, and maids.

In the skilled trades, women are employed as helpers in the fabrication, maintenance, overhaul, alteration, and repair of leather and canvas articles used by the Air Corps. These articles include parachutes, packs, harness, fabric-covered airplane tail surfaces, and leading-edges of wings, airplane seats, cushions, covers, awnings, tow targets, tents, belts, straps, shoes, boots, gloves, and other items of clothing. Others are radium dial painters. Women are also called upon to pack parachutes, and to drop-test and inspect parachutes and parachute harness to assure their proper functioning. A number of women mechanic learners are being trained for various helper positions and for aircraft spark plug and aircraft fabric work.

Bowman Field, Louisville, Ky.: Women are being placed in virtually all positions in the aircraft repair shops. These positions include inspector, sheet-metal worker, leather and canvas worker, aircraft mechanic, welder, machinist, aircraft electrician, and aircraft painter.

Wright Field, Dayton, Ohio: Vacancies are being filled with women storekeepers and property and supply clerks. A number of mechanic helpers are on the job.

Naval Air Station, Corpus Christi, Tex.: More than 700 women are employed at the station (71 a year ago) as clerks, stenographers, typists, telephone operators, office machine operators, purchasing clerks, librarians, messengers, mechanic learners, sewers, and classified laborers.

San Antonio Air Depot, Duncan Field, San Antonio, Tex.: Approximately 2,800 women were employed at the depot on June 1, 1942 (99 on June 1, 1941), as storekeepers, janitors, seamstresses, leather and canvas goods workers, and messengers. Many women are already occupying, or are in training for, these positions: Aircraft mechanic, aircraft electrician, aircraft engine mechanic, leather and canvas worker, sheet-metal worker, aircraft inspector, engineering draftsman, aircraft instrument mechanic, and propeller mechanic.

Army Air Base Subdepot, Portland, Oreg.: There is a definite tendency in the depot to employ women wherever possible. A number of women are working in the position of sheet-metal worker's helper in the process of fabricating airplane parts, such as tanks, oil coolers, sheet-metal boxes for radios and electrical installations, and cowlings.

On the basis of drawings, sketches, and verbal instructions, women perform work necessary for the upkeep of shops and laboratory equipment—work which involves the operation of various types of machine tools.

Other women inspect and repack parachutes, flying helmets, radio phones, and oxygen masks. They repair all types of flying clothing, make leather covers for miscellaneous gadgets, and sew name plates, identification tags, and insignia on flying clothes.

General mechanic helpers make minor adjustments and repairs to airplane engines, checking ignition timing, spark plugs, carburetors, gas and water lines; and they connect hose clamps, service and replace tires, service airplanes with oil and gas, and wash, oil, grease, and clean parts. They operate motorized machinery and equipment, such as tractors, mowers, and graders, used in maintaining the flying field, roads, and lawns at the post.

Naval Air Station, Seattle, Wash.: More than 200 women were employed at the station on June 1, 1942. About 12 percent were working as mechanic learners, in the assembly and repair department, on aircraft mechanic work. Other women are working as sewers on aircraft fabrics.

Sacramento Air Depot, McClellan Field, Calif.: Approximately 2,500 women were employed at the Sacramento depot— 1,900 in the clerical and 600 in the mechanic positions. Only 50 women were employed by the depot on July 1, 1941.

In the skilled trades, women are at work in the following classifications:

(*a*) Mechanic learners (563). These learners are given 3 months' training to fill positions as helpers in the aircraft mechanical trades for assignment to duty at the depot and its subdepots.

(*b*) General mechanic's helpers (27). Their duties involve minor adjustments and repairs to aircraft engines and parts and assisting journeymen aircraft mechanics.

(*c*) Stock tracer's helpers (6). They dispatch, dismantle, disassemble, assemble, and repair aircraft parts, fittings, and accessories, procure stocks from stock rooms, and deliver raw materials, aircraft parts, fittings, accessories, and equipment to mechanics who are engaged in overhaul, maintenance, and repair of aircraft engines.

(*d*) Mechanics (4), engaged in leather and canvas work.

March Field Subdepot, March Field, Calif.: Approximately 25 women are employed in the stock and tool room receiving and issuing tools, and sorting, tagging, and storing aircraft supplies.

Naval Air Station, San Diego, Calif.: More than 600 women are employed at the station in the following kinds of work:

(*a*) Metal shop: Cutting, filing, drilling, sawing, grinding, and hand-forming metal parts. Women will be used in the shop as welders, first working with aluminum, and then with other metals.

(*b*) Tube shop: Bending and forming tubing; identifying tubing; capping ends of tubes; cleaning and painting tubings.

(*c*) Machine shop: Subassembly work, filing, riveting, drilling, removing burrs, operating engraving machines, issuing tools and supplies. The shop expects to use women in the operation of metal saws and turret lathes.

(*d*) Hull and float shop: Women assist in the overhaul of main and wing tip floats, and hulls.

(*e*) Overhaul control shop: Reconditioning hose clamps, sorting nuts, bolts, and screws; salvaging aircraft electrical cables; identifying parts and boxing them.

(*f*) Fabric shop: Sewing, installing, doping and taping fabric on wings and control surfaces; making seat cushions.

(*g*) Wing shop: Issuing rivets and tools; delivering rivets; receiving and unloading trucks and trailers; riveting wings.

(*h*) Cable shop: Checking cable and parts; splicing cable.

(*i*) Tank shop: Bench filing; assembling tanks; welding and brazing.

(*j*) Parachute shop: Repairing and reconditioning parachutes.

(*k*) Engine shop: Reconditioning spark plugs; working in the storeroom; sorting small parts; learning carburetor overhaul; inspection of engine parts. The shop expects to use women in the overhauling and checking of cylinder parts, ignition harness, magnetos, and other engine parts.

(*l*) Assembly shop: Subassembly of small engine parts and engine accessories; keeping shop records; issuing small parts; subassembly and installation of cowlings; subassembly on wings; subassembly and installation of fuel systems; subassembly and assistance in the installation of fixed equipment, such as seats, doors, small cowlings, and hydraulic equipment; and assisting in the installation of surface controls; in rigging and installation of tail surfaces; and in the installation of instruments.

(*m*) Graphic arts shop: Radium refinishing on dials and indicators. Women assist in the photographic laboratory in such tasks as art layout, multilith work, screen processing, optical silvering, and plastic molding.

(*n*) Radio shop: Repairing minor radio parts, including cable assembly, microphones, antenna reel counters, telegraph keys; cleaning parts.

(*o*) Electrical shop: Subassembly of aircraft wiring.

(*p*) Accessory shop: Overhauling control pulley bearings.

(*q*) Paint shop: Making miscellaneous parts and painting with spray guns.

(*r*) Plating shop: Preparing parts for plating and assisting in plating operations.

(*s*) Propeller shop: Cleaning and buffing propellers.

(*t*) Windshield shop: Assisting in bending and forming of plexi-glass; subassembly on windshields.

(*u*) Fuselage shop: Riveting and cutting metal.

(*v*) Photographic catalog shop: Compiling photographic catalog of airplane parts.

Naval Air Station, Alameda, Calif.: One year ago, no women were empoyed at the Alameda station. Now there are 275—50 employed as sewers, rib stitchers, and aircraft fabric workers; 25 as helpers and storekeepers in the various aircraft shops; and 200 as mechanic learners on light metal work such as riveting, drilling, metal forming with hand tools, making metal subassemblies, spark-plug cleaning, and aircraft electrical work.

A few mechanic learners are employed in the instrument shop, where they are being taught the overhaul, repair, and calibration of aircraft instruments. A mechanic instructs them in disassembly of instruments, and in diagnosing trouble. With 9 months' training, women are expected to be able to overhaul at least three or four different kinds of aircraft instruments.

Ogden (Utah) Air Depot: More than 1,000 women were on the pay roll of the depot in June 1942. Only 14 were on the pay roll in June 1941. Women were employed at the depot as mechanic learners in all types of aircraft mechanic positions. Three women were engineering draftsmen.

To fill vacancies at the depot, officials have decided to employ women to the extent (in terms of percentages) indicated in the following schedule:

| *Trade* | *Percentage of women* |
|---|---|
| Aircraft engine mechanic | 25 |
| General aircraft mechanic | 25 |
| Aircraft propeller mechanic | 25 |
| Aircraft hydraulic mechanic | 25 |
| Aircraft welder | 50 |
| Aircraft electrical worker | 50 |
| Aircraft radio mechanic | 50 |
| Aircraft leather and canvas worker | 75 |

## MILITARY CAMPS AND FORTS

Since July 1941, thousands of enlisted men in office and skilled trades jobs in recruiting stations, army posts and camps, and marine posts, have been replaced by women civil-service employees and have thus been released for duty with the combat forces. Indicative of the rapid trend in this replacement policy is the fact that by the first part of January 1942, 20,000 men had been so replaced.

Replacements have been made in all branches of the armed services, but chiefly in the Quartermaster Corps, the Medical Corps, the Signal Corps, and in the administrative offices of the Army. Women replaced enlisted men as typists, stenographers, office-machine operators, clerks, telephone switchboard operators, messengers, cooks, and kitchen workers. They also replaced men in such jobs as plumber, machinist, welder, sheet-metal worker, truck driver, janitor, and laborer.

The ranks of women workers in the military posts have been increased to the greatest extent by qualified women secured from lists of eligibles set up through such civil-service examinations as those for laundry operative, laundry assistant, forelady of laundry department, telephone operator, storekeeper, and dental surgeon's assistant. The mechanic learner and learner-trainee examinations have also provided a number of women employees in the skilled and semiskilled trades. The following section gives some idea of the diversified occupations at which women work in the military posts of the Nation.

Marine Barracks, Quantico, Va.: Fifty women, employed as helper-trainees, assist aircraft mechanics in the aircraft engine overhaul shops. One interesting duty among many others is that of painting insignia on aircraft.

Camp Davis, Wilmington, N. C.: More than 800 women are employed at Camp Davis, most of them in clerical and stenographic positions. Two hundred and ninety-six are employed in the quartermaster laundry, and 399 in the Office of the Quartermaster.

Fort Meade, Md.: Women are employed as mess attendants.

Holabird Quartermaster Depot, Baltimore, Md.: A number of women artists are engaged in free-hand drawing of illustrations for use in textbooks in the field of automobile mechanics. These books are used in all army mechanic schools throughout the country. Women in the engineering division draw charts and make blueprints which are used by mechanics and engineers on duty in the depot.

Post Commissary, Fort Knox, Ky.: Women are employed as meat cutters.

Army Camps and Forts, Alexandria, La.: More than 1,200 women, including some draftsmen, are employed in camps and forts in the vicinity of Alexandria.

Army Camps and Forts, San Antonio, Tex., and vicinity: Approximately 2,000 women are employed in camp activities as compared to 700 a year ago. Included in this number are 284 laundry workers, 834 typists, 448 stenographers, 78 clerks, 14 dietitians, 33 laboratory technicians, 22 seamstresses, and 15 dental and laboratory helpers.

Fort Lewis, Wash.: The post ordnance office employs women as clerks, and as junior storekeepers in the ordnance warehouses. Women have proved themselves capable of handling and storing heavy, greasy equipment—doing the work formerly done by soldiers. The post signal radio repair office also employs women as storekeepers and messengers.

Other women are employed as mechanic learners, dismantling field glasses, cleaning the lenses, reassembling the parts, and making the necessary adjustments. Others drive trucks and busses.

The quartermaster laundry at the post employs 635 persons, of whom 85 percent are women. Many of the women are doing heavy work formerly assigned to men—for example, those employed as extractors and washers.

The station hospital employs women as cooks, bakers, dishwashers, and janitors, and as classified laborers for the distribution of linens.

At the McChord Field subdepot, women ride motor scooters to deliver mail and messages; other women unload freight cars and army trucks, work in storerooms as storekeepers, and do janitor work.

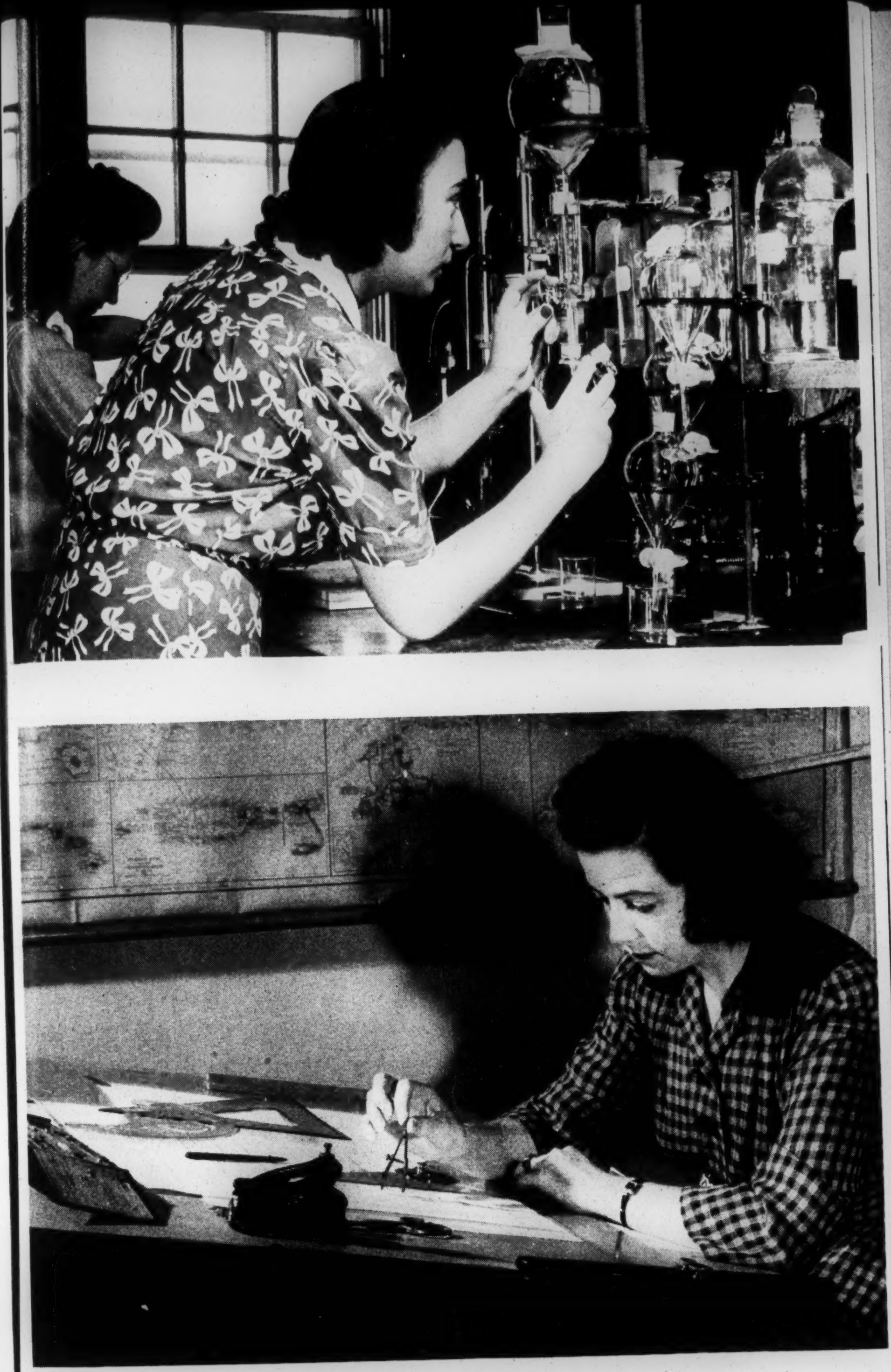
# War Jobs for College-trained Women

College-trained women are being sought in ever-increasing numbers to fill war-service jobs in the Government. In *The First Year* it was found that women who had pursued professional and scientific courses in colleges were making superb contributions to the Federal defense program. In the Government agencies they were filling important positions in the professional and scientific fields. They were serving as dietitians, social workers, dental hygienists, nurses, lawyers, doctors, economists, personnel officers, and chiefs of public-information and press relations.

Highly trained women were ground-crew instructors and pilots. They were designing work outfits for women, testing textiles to determine resistance to mildew in order to improve cloth for military clothing and equipment, and inspecting lease-lend supplies which were being sent to England.

Now, women are found in the shops and laboratories of the Government, working as engineering draftsmen, conducting experiments relating to the dehydration of fresh vegetables, studying ways to preserve and increase the nutritive value of foods, and producing vaccine for use in the prevention of animal diseases.

Due to the heavy recruiting and examining workload of the Civil Service Commission, the assembling of statistical data on Federal employment has been greatly curtailed for the duration of the war. For that reason, it is difficult to estimate the number of college-trained women who are contributing to the Government's war program. It is also difficult to ascertain in what professions they are working in the largest numbers, and under what conditions they are working. Certain it is that



WOMEN AT WORK IN THE SHOPS AND LABORATORIES OF THE GOVERNMENT

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they are doing all, and more, of the work they were doing in the first year of the emergency, and in much larger numbers.

Some of the professional and technical positions in the Federal service in which women are making notable contributions to the war program are:

- Bacteriologist.
- Biochemist.
- Business specialist.
- Club organization specialist.
- Commercial specialist.
- Commodity specialist.
- Community organization analyst.
- Cryptanalyst.
- Economic analyst.
- Economic planning consultant.
- Economic warfare analyst.
- Economist:
  - Business.
  - Home.
  - Home (extension).
  - Medical.
- Education specialist:
  - Elementary.
  - Exceptional children.
  - Home economics.
  - Parent.
- Employee relations consultant.
- Employment analyst.
- Employment specialist.
- Home marketing specialist.
- Industrial analyst.
- Industrial specialist.
- Information specialist.
- Laboratory technician.
- Leasing and occupancy analyst.
- Library material specialist.
- Medical officer.
- Meteorologist.
- Microscopist.
- Nutrition specialist.
- Nutritionist.
- Personnel research technician.
- Physical analyst.
- Price analyst.
- Program specialist.
- Public health nursing consultant.
- Public welfare consultant.
- School program specialist.
- Social science analyst.
- Social scientist.
- Social welfare officer.
- Statistical analyst.
- Statistical research consultant.
- Statistician:
  - Health and disability studies.
  - Venereal diseases.
- Student personnel administration specialist.
- Surgeon.
- Technical aid.
- Technical analyst.
- Translator.
- Zoologist.

The war program of the Federal service has accentuated tenfold the need for professional and technical workers. Critical labor shortages have developed in engineering (all branches) and in the physical sciences (physicists, chemists, metallurgists, geologists, meteorologists); in management and administration (administrative analysts, industrial consultants, personnel managers, housing managers); in the social sciences (technical experts, statisticians, transportation economists, marketing analysts); in the field of accounting (cost auditors and purchasing officers); and in medicine and related fields (nurses, medical officers, physiotherapy aids, occupational therapists, dental hygienists).

As the central personnel agency of the Government, the Civil Service Commission has found it increasingly difficult to recruit an adequate number of trained personnel in many occupations requiring college training. Critical shortages exist in such fields as engineering, drafting, meteorology, physics, and chemistry. It is more and more imperative that professionally and technically trained women take war jobs in which they can fully utilize their highest skills and talents, lest the war program be seriously crippled.

It is estimated that there are approximately 3,500,000 women in America who have either received college degrees or certificates, or have had 1, 2, or 3 years of college training. The Civil Service Commission has recognized the importance of this vast reservoir of trained womanpower. As the recruiting agency of the Government, it seeks to draw from it women who are qualified through training to fill critical war-service positions in Federal war agencies. The Commission has sought to do this through wholesale shortcuts in its recruiting methods and through numerous procedural innovations designed to facilitate the task of supplying emergency personnel.

Age, physical, and even educational requirements have been liberalized in many of the professional civil-service examinations announced by the Commission to secure professional and scientific workers. Such examinations are continuously open to applicants, and the great majority of them are "unassembled"—that is to say, applicants are rated on their sworn statements as to their education and experience, and on corroborative evidence gathered by the Commission; they are not required to assemble for a written test.

Under the Engineering, Science, and Management War Training Program, sponsored by the U. S. Office of Education, training courses are available to women who need "refresher" training, or more specific training, in order to qualify for war jobs.

Records of persons qualified for Government jobs in the professional and subprofessional fields are maintained in the Commission's examining units. The persons who submitted their records—in the form of applications for employment—did so as an indication of their willingness to fill war-service jobs. By reference to these records, the Commission has supplied hundreds of qualified women to fill critical positions in Federal agencies.

But the response to the Commission's efforts to induce professionally trained women to submit statements of their qualifications has been below expectations.

A number of conditions contribute to this situation. First, many women have responded to the call of the volunteer services (Red Cross, U. S. O., WAAC, WAVES, etc.); second, more money is finding its way into households because of the increased earning power of men, so that there is less inducement for women to seek employment; third, and quite likely the most important of all, is the simple fact that comparatively few women have received training in the professional fields in which critical war jobs exist.

During the past several years, the Federal Government has looked with increasing interest upon the annual "crop" of students graduating from the colleges and universities. These students, in the view of Federal appointing officers, were the best prospects that could be found for appointment to junior-grade professional positions. The Civil Service Commission has reached out for these students, announcing, at least once each year, a "junior professional assistant" examination. The first "JPA" examination was announced in February 1939, and six others had been announced by July 1942.

In sampling the data compiled on the junior professional assistant examinations held during 1941 and the early part of

1942 (for the purpose of giving some idea as to what "optional subjects" both women and men undergraduate and graduate students were choosing), the following information was revealed:

## OPTIONAL SUBJECTS CHOSEN BY APPLICANTS FOR THE JUNIOR PROFESSIONAL ASSISTANT EXAMINATIONS HELD DURING 1941 AND THE EARLY PART OF 1942

### EXAMINATION ANNOUNCED JAN. 6, 1941

| Optional Subject | Applied | | Passed | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| Junior administrative technician | 2,815 | 913 | 546 | 111 |
| Junior agronomist | 634 | 1 | 168 | ....... |
| Junior in animal nutrition | 234 | ....... | 33 | ....... |
| Junior biologist (wildlife) | 1,314 | 419 | 255 | 15 |
| Junior business analyst | 2,488 | 313 | 825 | 57 |
| Junior chemist | 3,341 | 454 | 908 | 38 |
| Junior economist | 2,792 | 725 | 976 | 192 |
| Junior engineer | 3,894 | 6 | 3,754 | 3 |
| Junior forester | 983 | ....... | 326 | ....... |
| Junior geologist | 1,071 | 85 | 456 | 23 |
| Junior home economist | 6 | 1,821 | 2 | 285 |
| Junior horticulturist | 282 | 26 | 38 | ....... |
| Junior legal assistant | 3,560 | 304 | 1,077 | 57 |
| Junior meteorologist | 1,133 | 135 | 428 | 9 |
| Junior physicist | 743 | 57 | 280 | 19 |
| Junior range conservationist | 447 | 3 | 164 | ....... |
| Junior soil scientist | 466 | 3 | 193 | 2 |
| Junior writing and editing assistant | 2,372 | 2,536 | 760 | 478 |
| Junior zoologist (parasitology) | 200 | 46 | 28 | 3 |

### EXAMINATION ANNOUNCED OCT. 20, 1941

| Optional Subject | Applied | | Passed | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| Junior administrative technician | 2,968 | 1,105 | 2,071 | 742 |
| Junior business analyst | 2,406 | 456 | 1,891 | 309 |
| Junior economist | 2,280 | 686 | 1,653 | 491 |

EXAMINATION ANNOUNCED JAN. 12, 1942

| Optional Subject | Applied | | Passed | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| Junior agricultural economist | 126 | 6 | 47 | 2 |
| Junior agronomist | 257 | 2 | 85 | 1 |
| Junior aquatic biologist | 184 | 106 | 95 | 34 |
| Junior archivist | 561 | 459 | 249 | 113 |
| Junior bacteriologist | 344 | 267 | 124 | 73 |
| Junior biologist (wildlife) | 408 | 184 | 117 | 15 |
| Junior chemist | 2,163 | 416 | 1,968 | 373 |
| Junior entomologist | 268 | 21 | 129 | 5 |
| Junior forester | 433 | .... | 96 | .... |
| Junior geologist | 383 | 57 | 258 | 18 |
| Junior in household equipment | 20 | 92 | 11 | 35 |
| Junior olericulturist | 54 | 4 | 8 | .... |
| Junior pomologist | 89 | 2 | 23 | .... |
| Junior public welfare assistant | 500 | 1,160 | 250 | 603 |
| Junior range conservationist | 199 | 2 | 67 | 1 |
| Junior soil scientist | 248 | 4 | 96 | 3 |
| Junior State Department assistant | 1,206 | 472 | 613 | 170 |
| Junior statistician | 991 | 814 | 873 | 626 |

Data are not available on the number of appointments which have been made from the lists of those persons who qualified in the various options under each examination announced.

Following a survey by the American Council on Education to determine the approximate number of undergraduate women students with training in the fields listed below who graduated from the colleges, universities, professional and technological schools and teachers colleges between February (or March) 1942 and December 1942 (or January 1943), the following estimates were made:

| *Field* | *Women graduates* |
|---|---|
| Management and administration | 2,974 |
| Agriculture and biology | 3,000 |
| Medicine and related fields | 5,558 |
| Engineering and physical sciences | 2,545 |
| Social sciences | 24,139 |
| Arts and languages | 9,036 |
| TOTAL | 47,252 |

In addition, it was estimated that 8,000 women graduate students would become available for full-time employment during the same period.

There is every indication in these data that (*a*) women in large numbers are not specializing in those professions in which the more critical shortages of workers are found and (*b*) those who have specialized in such professions have not applied for examination under the options in the junior professional assistant examinations which relate to the jobs in which workers are needed in the greatest numbers.

Perhaps the most valuable single step which has been taken to inform college and university students of war jobs in the Federal service is the publication of "Civilian War Service Opportunities for College and University Students." Prepared by the United States Civil Service Commission and distributed by the American Council on Education, it lists those examinations requiring college education, and the remarks which have been made on the need for women in some of the professions covered by the examinations are not only of current but of historic importance. Notable ones follow:

Chemist (Junior), $2,000.

*Women* have special opportunities as a result of the war demand for technically trained persons in chemistry in navy yards, arsenals, and other Government laboratories. More women should be encouraged to enter the various fields of chemistry.

Economist (any specialized branch), $2,600 to $6,500.

*Women* to a much greater extent may well be encouraged to enter all fields of economics.

Engineer (Junior), all branches, $2,000.

*Women.*—More women should be induced to enter the engineering fields. This is a big opportunity for women interested in engineering.

Engineering Aid (photogrammetric, geodetic, hydrographic, topographic), $1,440 to $2,600.

*Women* to a much greater extent should be encouraged to go into this field. Women are now being appointed in considerable numbers.

Engineering Draftsman (20 options), $1,440 to $2,600 a year.

*Women* can well fill positions in all these options. Women are now readily accepted for all drafting positions.

Inspector, Engineering Materials (steel hulls, mechanical, electrical, radio), $1,800 to $2,600.

*Women* can qualify. War demands are increasing opportunities for the appointment of women.

Inspector, Ordnance Material, $1,620 to $2,600.

*Women* are being appointed to the lower positions in increasing numbers. Greater use of women in inspection work depends on the scarcity of manpower.

Medical Officer, $3,200 to $4,600.

*Women* who definitely desire a career in medicine can well be advised to consider opportunities in the Federal civil service.

Metallurgist, $2,000 to $5,600.

*Women* are eligible. War demands are increasing their opportunities in metallurgy.

Meteorologist, $2,000 to $5,600.

*Women* should be encouraged to enter this field.

Naval Architect, $2,600 to $5,600.

*Women* may well be encouraged to enter this field of engineering. Qualified women are readily accepted now.

Physicist (Junior), $2,000.

*Women* to a much greater extent should be encouraged to enter the field of physics. Special opportunities are now open to women in the lower grades.

Physiotherapy Aid, $1,620 to $1,800.

*Women* can be used more extensively than ever in this position. Men are still being accepted but in limited number because of the need for men in the armed forces.

Radio Mechanic-Technician, $1,440 to $2,600 a year.

*Women* may be accepted. War demands are increasing opportunities for women appointees.

Radio Monitoring Officer, $2,600 to $3,200.

*Women* may be accepted.

Shipyard Inspector (hull, outfitting, machinery, electrical, joiner), $2,300 to $3,500.

*Women* may be accepted.

Technical and Scientific Aid, $1,620 to $2,600.

*Women* are urgently needed who have completed 2 years of college work with courses in mathematics, at least through trigonometry.

Technologist, $2,000 to $5,600.

*Women* to a much greater extent should be encouraged to enter the various technological fields. Women are readily accepted for appointment.

Training Specialist, $2,600 to $5,600.

*Women* are eligible. Certain phases of Government work offer exceptional opportunities.

Veterinarian, $2,000 to $2,600.

*Women* to a greater extent can well be advised to consider this field of medical science.

# The Search for The Stenographer-Typist

The paper work of total war has created an unprecedented demand in Government establishments everywhere for the services of the typist and the stenographer. One of the most spectacular and stirring phases of the behind-the-lines activity of the second year of the emergency is the Civil Service Commission's recruitment of these workers. By the tens of thousands, they have been recruited, examined, and placed in Federal war agencies.

In December 1938, only 53,000 stenographers, typists, and secretaries were on the Federal rolls; 45,000 were women. By August 1941, the number had increased to an estimated total of 85,000. More than 150,000 stenographers, typists, and secretaries were at work in the executive branch of the Federal Government in June 1942; about 130,000 were women.

The upward trend in the number of appointments made from the Federal civil-service registers (lists of eligibles) for stenographers and typists during the past 3 years clearly indicates the phenomenal growth in the demand for such workers. From June 1939 to June 1940, more than 2,800 appointments were made from the stenographer registers, and more than 5,500 from the typist registers. During the next 12 months, approximately 15,000 stenographers and 25,000 typists were appointed. Figures on the number of appointments made during the 12-month period ending June 30, 1942, are not available; however, by subtracting the estimate of total stenographer-typist employment in August 1941 from that made for June 1942, it may be seen that the number of appointments to new positions alone was 65,000, without counting appointments necessitated by the turnover inevitable to so large a number as 150,000 positions. Even before the emergency, women were receiving the vast majority of appointments to stenographer-typist positions and, of course, war conditions have greatly augmented the percentage of women appointed.

The tremendous increase in the number of stenographers and typists employed by Federal agencies was the most sensational part of a general expansion of personnel which was required to take care of the vast projects of the defense and war programs. The recruiting facilities of the Civil Service Commission were taxed to the extreme in the effort to meet the demand. Every conceivable avenue through which potential stenographers and typists might be quickly reached was explored. Examinations were held daily. Examining procedures were simplified and requirements were lowered.

In preceding years, persons who applied for stenographer and typist examinations were required to file their applications by a specified date. Often applicants waited many months before they were examined, and, if eligible, they sometimes waited several more months before they were finally certified for appointment and placed on the job. These delays were caused by the staggering number of applications filed and the resulting examination workload.

Early in May 1941, however, because of the enormous increase in the demand for qualified stenographer-typist eligibles, the announcement of the stenographer and typist examination for appointment to the departmental service at Washington, D. C., was amended to provide for (*a*) the *continuous* acceptance of applications, (*b*) the examination of persons whose applications were received prior to May 28, 1941, within 2 weeks from that date, (*c*) the examination of groups of applicants at periodic intervals thereafter (the intervals depending upon the number of applications received), and (*d*) the acceptance of a subsequent application card from a person who had previously failed in the examination, after a lapse of *only* 3 *months* from the date of filing of the previous application.

On December 15, 1941, the passing grade in the typing part of the junior typist examination was lowered from 70 to 60.

In the amendment effecting this change, it was also provided that a subsequent application card would be accepted from a person who had previously been rated ineligible *after a lapse of only 30 days* from the date of filing of the previous application.

On January 26, 1942, the required rate of dictation for the junior stenographer examination was lowered from 96 to 80 words per minute. The restriction that a person who had been rated ineligible as a junior stenographer must wait 30 days before a second application would be accepted was removed.

Subsequent amendments of the examination requirements followed.

On April 13, 1942, the rate of dictation was reestablished at 96 words a minute. A rating of 70 was reestablished as a minimum in each test in either of the examinations. The general test (designed to test mental alertness and understanding of the fundamentals of English) was now included for qualifying purposes only—that is, contrary to long practice, it was no longer an element which affected the final numerical rating of the competitor; the competitor either passed it (and won the right to be rated in the other tests making up the examination) or failed it (and lost the right to be rated in the other tests).

May 4, 1942: Applications from persons who had reached their sixteenth birthday were accepted in the case of applicants residing in Washington, D. C., or within a 50-mile radius.

June 15, 1942: Applications from all persons who had not reached their eighteenth birthday, but would reach that birthday by October 1, 1942, were accepted.

With the declaration of war, the demand for qualified stenographers and typists became acute. In one instance, 670 stenographers were needed in Washington immediately. The Civil Service Commission was given 8 days in which to bring them to Washington and put them on the job. A press release issued by the Commission on December 27, 1941, tells the story of the speed attained in filling the positions:

> By the closing hour on the date set, the 670 stenographers were on the job and 48 more were ready for duty. The majority were recruited by the Commission's regional staffs and the others were obtained from the lists of

eligibles maintained in the Commission's central office. When they arrived at the Nation's capital, they went direct to the Civil Service Commission, where they were fingerprinted and then sent at once to the jobs waiting for them. More stenographers continue to arrive in Washington by every train and bus to meet the continuing need.

A thousand stenographers were placed on war jobs in Washington during the week ending January 28, 1942.

It became apparent, however, that further "corner cutting" would be necessary if recruiting was to keep pace with the continually increasing demand for this class of war worker. There was a growing uneasiness on the part of the press (an uneasiness which was reflected in public opinion) as the number of Government employees continued to mount. Were so many stenographers and typists really necessary to carry on the war? Was it possible that the war could be lost because of inability to recruit them? There were reports of complaints that stenographers and typists were hurried to Washington and assigned to "useless" stenographic pools; that there were thousands upon thousands of stenographers and typists already in the Government who were at work on jobs not requiring stenographic skill; and that new stenographers and typists were being assigned to clerical positions.

In November 1941, the Civil Service Commission requested the heads of the departments and independent establishments of the Government immediately to examine their personnel with a view to reassigning to stenographic positions any persons serving in a clerical capacity who might be competent stenographers and whose ability in the stenographic field was not being utilized. However, new appointees to stenographic positions continued to complain that they were being assigned to duties not requiring stenographic skill, and early in 1942 the Commission made another effort to adjust the matter, asking the heads of the agencies to submit the names of all persons appointed as stenographers on or after July 1, 1941, who were at the time devoting 50 percent or more of their time to clerical duties.

In taking this action, it was not the intention of the Commission to disparage the work being done by women in clerical (as distinguished from typing and stenographic) positions. The girls grading civil-service examination papers, the telephone operators, the fingerprinters, the file clerks, are as important to the war program as the stenographers and typists. But stenographers and typists were needed in large numbers, and one way of increasing the supply was to see to it that persons qualified to perform typing and stenographic work were not placed in jobs for which recruits were more easily obtainable.

The Civil Service Commission relied heavily on the Directors of the 13 United States Civil Service Regions in the recruiting of potential stenographers and typists for appointment to war jobs in Washington.

Quotas were assigned to each region according to the needs of the service. The following quotas, assigned to the 13 regions for the month of June 1942, are typical:

### QUOTAS ASSIGNED TO EACH OF THE 13 CIVIL SERVICE REGIONS IN RECRUITING STENOGRAPHERS AND TYPISTS FOR THE MONTH OF JUNE 1942

| Region | Week ending June 6, 1942 | | Week ending June 13, 1942 | | Week ending June 20, 1942 | | Week ending June 27, 1942 | |
|---|---|---|---|---|---|---|---|---|
| | Stenographer | Typist | Stenographer | Typist | Stenographer | Typist | Stenographer | Typist |
| 1 | 85 | 120 | 40 | 86 | 60 | 86 | 60 | 40 |
| 2 | 105 | 155 | 60 | 64 | 70 | 64 | 70 | 60 |
| 3 | 80 | 105 | 45 | 78 | 70 | 78 | 70 | 45 |
| 4 | 60 | 70 | 60 | 140 | 95 | 140 | 95 | 60 |
| 5 | 80 | 115 | 65 | 74 | 85 | 74 | 85 | 65 |
| 6 | 80 | 115 | 45 | 70 | 65 | 70 | 65 | 45 |
| 7 | 100 | 150 | 75 | 94 | 90 | 94 | 90 | 75 |
| 8 | 55 | 105 | 40 | 32 | 50 | 32 | 50 | 40 |
| 9 | 55 | 110 | 25 | 76 | 30 | 76 | 30 | 25 |
| 10 | 45 | 60 | 25 | 56 | 30 | 56 | 30 | 25 |
| 11 | 15 | 15 | 5 | 12 | 15 | 12 | 15 | 5 |
| 12 | 25 | 20 | 10 | 17 | 30 | 17 | 30 | 10 |
| 13 | 5 | 10 | 5 | 8 | 10 | 8 | 10 | 5 |
| TOTAL | 790 | 1,150 | 500 | 807 | 700 | 807 | 700 | 500 |

In sampling the data received from the various regional offices on the number of persons examined in the stenographer and typist examinations, and the number who passed, the

WOMEN WAR WORKERS IN THE CLERICAL FORCES OF THE GOVERNMENT

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following was considered noteworthy and typical of the successful manner in which the various regions met their quotas:

*Fifth United States Civil Service Region* (Tennessee, South Carolina, Mississippi, Alabama, Georgia, Florida):

| | *Examined* | *Passed* |
|---|---|---|
| Junior Typist | 22,284 | 12,539 |
| Junior Stenographer | 10,350 | 5,467 |
| Total | 32,634 | 18,006 |

*Sixth United States Civil Service Region* (Indiana, Ohio, Kentucky):

| | *Examined* | *Passed* |
|---|---|---|
| Stenographer-Typist | 35,000 | 10,000 |
| | (Approximate) | |

*Tenth United States Civil Service Region* (Texas, Louisiana):

| | *Examined* | *Passed* |
|---|---|---|
| Stenographer | 10,648 | 3,062 |
| Typist | 18,861 | 8,445 |
| Total | 29,509 | 11,507 |

Special representatives of the Commission "beat the bushes" of the countryside. "Itinerant" examiners went into schools, factories, and homes in their search for available stenographers and typists. Appeals were made through the press and over the radio. Business colleges trained students day and night. Patriotic posters set forth a vibrant appeal to girls—VICTORY WAITS ON *YOUR* FINGERS: KEEP 'EM FLYING, MISS U. S. A.

The result of this concerted action brought thousands of war workers to the National Capital. The great majority were girls and women—in fact, the number of girls was so large that national attention became focused on the "Government girl." Magazines and newspapers featured her. The movies discovered her. Her work, her life in Washington, her ambitions, became public property.

The "Government girl" continues to arrive in the National Capital. Many more stories—feature and fiction—will be told about her. Yet there is one unglamorous fact about her that is in danger of being obscured: Her contribution to the job of winning the war is of genuine importance.

# A Million Women in The Federal Service—1943

At the end of the period covered in this study, that is to say, June 30, 1942, about 14,000,000 women workers were on jobs in the United States.

Out of this vast resource of womanpower (representing more than one-fourth of the country's total employment), 2,000,000 women were at work in agriculture; 3,000,000 in manufacturing; 400,000 in transportation and public utilities; 800,000 in Government service (Federal, State, and local); 7,000,000 in the retail and wholesale trades, and in the personal, professional, and related services; and 700,000 in miscellaneous employment (mining, construction, business services, amusement, finance, and insurance). Within these various classifications there were 2,500,000 women engaged in actual war work.[1]

Millions of additional women will yet find their way into war work—women who, heretofore, have not found it necessary to work . . . married women with and without children . . . women who have retired because they thought themselves too old to work, but now feel that they must return to work in order to do their bit for their country.

It was estimated in 1942 that the number of women employed in war industries (Government and private) would reach 3,500,000 by the end of that year, and that another 2,500,000 would be added in 1943, bringing the total number of women in war production up to 6,000,000 by the end of 1943.

In the Federal service the total number of women employees is increasing at the rate of 8,000 a week. At the end of 1942 the number of women on Government jobs reached the 600,000 mark. June 30, 1943, the end of another Government fiscal year, may find 1,000,000 women working for Uncle Sam.

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[1] Estimates based on figures compiled by the Women's Bureau, United States Department of Labor, from other Government sources.

There is little to wonder about in the fact that women have risen in such large numbers to work, march, and even fight, if necessary, with men against the common enemy; for this is a new kind of war—a war so savagely waged on land, by sea, and in the air that its uncertain geographical fronts leave no peaceful hinterland, but expose all the people—men, women and children—constantly to the danger of sudden attack and possible extermination.

In no other war has women's contribution to the freeing of men for military duty, and their participation in the manufacture of munitions, in the planning of strategy, and in the actual defense of our shores, been so widespread and so profound as it has been since the attack on Pearl Harbor.

**Serial No. R. 1571**

[From the MONTHLY LABOR REVIEW (C
United State

## Wartime Employment

WARTIME industrial exp
the number of women in ma
bringing the total number
than 4¼ million. Women
manufacturing wage earners
Bureau of the U. S. Departr
of the women hired have ha
well suited to many kinds
at certain tasks, particular
tion to details. The metal,
have been especially activ
which produce the ships,
nearly 2 million woman w
leather, and apparel indus
great numbers employed a

Boots + Shoes

| | Women No. | PC |
|---|---|---|
| | Men + women | women no | PC |
| ct 1939 | 214,000 | 96,000 | 45 |
| pr 1941 | 218,000 | 102,000 | 47 |
| 1942 | 222,000 | 109,000 | 49 |
| 1943 | 193,000 | 106,000 | 55 |
| June 1943 | 185,000 | 105,000 | 57 |

Over phone from Casey – Dec 30 1943

↓ worked by WB from total + pub. ratios

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TABLE 1.—*Estimated Employ*
*Economic D*

| Economic division | Number (thousands) | | Percent of total[2] | | All wage earners (thousands) | |
|---|---|---|---|---|---|---|
| | January | June | January | June | January | June |
| All manufacturing | 3,766 | 4,276 | 27.9 | 30.9 | 13,503 | 13,821 |
| Metal, industrial chemicals, and rubber industries | 1,438 | 1,859 | 19.4 | 23.7 | 7,422 | 7,858 |
| Basic metals | 59 | 94 | 5.6 | 8.9 | 1,048 | 1,049 |
| Metal fabricating | 1,292 | 1,668 | 21.7 | 26.1 | 5,965 | 6,391 |
| Industrial chemicals | 21 | 26 | 9.4 | 11.1 | 226 | 229 |
| Rubber | 66 | 71 | 36.1 | 37.8 | 183 | 189 |
| Food industries | 248 | 262 | 25.7 | 27.5 | 965 | 953 |
| Textile, apparel, and leather industries | 1,473 | 1,455 | 58.5 | 60.2 | 2,518 | 2,416 |
| Other manufacturing industries | 607 | 700 | 23.4 | 27.0 | 2,598 | 2,594 |

[1] These divisions were devised to distinguish groups of industries of special significance in wartime. They represent combinations of complete industries classified by pre-war product and cannot be considered clear-cut categories.

[2] Percentages computed on unrounded figures.

During the initial stages of war expansion the manufacturing industries hired men preponderantly. Between October 1939 and April 1942, 5 million wage earners were added to manufacturing industries; less than 10 percent of these were women. As long as a supply of men was still available many industries were reluctant to hire women. Traditionally women had been utilized only in lower-

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[1] Prepared in the Bureau's Employment Statistics Division.

**Serial No. R. 1571**

[From the MONTHLY LABOR REVIEW (October 1943) of the Bureau of Labor Statistics, United States Department of Labor]

# Wartime Employment of Women in Manufacturing[1]

WARTIME industrial expansion has resulted in almost doubling the number of women in manufacturing industries since October 1939, bringing the total number of women employed in June 1943 to more than 4¼ million. Women now comprise about 30 percent of all manufacturing wage earners. Field studies conducted by the Women's Bureau of the U. S. Department of Labor indicate that although many of the women hired have had no previous factory experience, they are well suited to many kinds of industrial work and are superior to men at certain tasks, particularly those which require dexterity and attention to details. The metal, industrial chemicals, and rubber industries have been especially active in recruiting women. These industries which produce the ships, planes, and implements of war employed nearly 2 million woman wage earners in June 1943, while the textile, leather, and apparel industries which have always utilized women in great numbers employed almost 1½ million.

TABLE 1.—*Estimated Employment of Woman Wage Earners in Manufacturing, by Economic Division,*[1] *January and June 1943*

| Economic division | Woman wage earners | | | | All wage earners (thousands) | |
|---|---|---|---|---|---|---|
| | Number (thousands) | | Percent of total[2] | | | |
| | January | June | January | June | January | June |
| All manufacturing | 3,766 | 4,276 | 27.9 | 30.9 | 13,503 | 13,821 |
| Metal, industrial chemicals, and rubber industries | 1,438 | 1,859 | 19.4 | 23.7 | 7,422 | 7,858 |
| Basic metals | 59 | 94 | 5.6 | 8.9 | 1,048 | 1,049 |
| Metal fabricating | 1,292 | 1,668 | 21.7 | 26.1 | 5,965 | 6,391 |
| Industrial chemicals | 21 | 26 | 9.4 | 11.1 | 226 | 229 |
| Rubber | 66 | 71 | 36.1 | 37.8 | 183 | 189 |
| Food industries | 248 | 262 | 25.7 | 27.5 | 965 | 953 |
| Textile, apparel, and leather industries | 1,473 | 1,455 | 58.5 | 60.2 | 2,518 | 2,416 |
| Other manufacturing industries | 607 | 700 | 23.4 | 27.0 | 2,598 | 2,594 |

[1] These divisions were devised to distinguish groups of industries of special significance in wartime. They represent combinations of complete industries classified by pre-war product and cannot be considered clear-cut categories.

[2] Percentages computed on unrounded figures.

During the initial stages of war expansion the manufacturing industries hired men preponderantly. Between October 1939 and April 1942, 5 million wage earners were added to manufacturing industries; less than 10 percent of these were women. As long as a supply of men was still available many industries were reluctant to hire women. Traditionally women had been utilized only in lower-paying jobs. The industries which had large proportions of women were, for the most part, highly seasonal and therefore offered very irregular employment. An entirely new concept of the jobs which women could fill was necessary before they could be used to their fullest capabilities. The growing depletion of the male labor supply and the rapidly expanding war industries literally forced employers to try out women in all industries and almost all jobs, between April 1942 and June 1943. Thus, women represented more than four-fifths of the net total of 1,833,000 wage earners added to the manufacturing industries between April 1942 and June 1943.

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[1] Prepared in the Bureau's Employment Statistics Division.

Table 2.—*Estimated Employment of Woman Wage Earners in Manufacturing, in Specified Months, October 1939–June 1943*

| Year and month | Woman wage earners | | Man wage earners (thousands) | All wage earners (thousands) |
|---|---|---|---|---|
| | Number (thousands) | Percent of total | | |
| 1939: October | 2, 268 | [1] 25. 6 | 6, 586 | 8, 854 |
| 1940: October | 2, 270 | 24. 1 | 7, 134 | 9, 404 |
| 1941: April | 2, 425 | 23. 5 | 7, 885 | 10, 310 |
| October | 2, 743 | 23. 6 | 8, 873 | 11, 616 |
| 1942: April | 2, 751 | 22. 9 | 9, 237 | 11, 988 |
| October | 3, 336 | 25. 3 | 9, 830 | 13, 166 |
| 1943: January | 3, 766 | 27. 9 | 9, 737 | 13, 503 |
| February | 3, 915 | 28. 7 | 9, 718 | 13, 633 |
| March | 4, 015 | 29. 2 | 9, 712 | 13, 727 |
| April | 4, 112 | 29. 9 | 9, 623 | 13, 735 |
| May | 4, 172 | 30. 5 | 9, 524 | 13, 696 |
| June | 4, 276 | 30. 9 | 9, 545 | 13, 821 |

[1] Derived from data of the 1939 Census of Manufactures: "Persons Employed in Manufacturing Establishments, by Sex," August 1941.

Before the war 85 percent of all woman wage earners in manufacturing were in the nondurable-goods industries. However, the rapid wartime growth of the durable-goods industries relative to the nondurable resulted in more nearly equalizing the distribution of women in these two groups. By June 1943, 58 percent of all woman wage earners were in the nondurable-goods industries, while 42 percent were in those making durable goods.

The number of men in the durable-goods industries continued to increase until March 1943, even though male employment in nondurable-goods industries began to decline in October 1942. Undoubtedly the drop in male employment in the nondurable-goods industries was in large part due to the shifting of workers to jobs in essential war industries. However, the increase in male employment in the manufacture of durable goods in this period (October 1942 to March 1943) was greater than the decrease in their employment in nondurable-goods industries, indicating that some men came from the farms, older men came out of retirement, and youths left schools.

Since March 1943 the number of men in both the durable- and nondurable-goods industries has been declining. Fortunately the number of women entering manufacturing industries was more than sufficient to replace the men leaving for the armed forces. For this reason total manufacturing employment has continued to increase to a level of almost 14 million.

Each of the major durable-goods groups showed substantial increases in the number of women hired. Most spectacular of these was

**TABLE 3.**—*Estimated Employment of Woman Wage Earners in Durable and Nondurable Goods Manufacturing, in Specified Months, October 1939–June 1943*

| Year and month | Woman wage earners | | | | Man wage earners (thousands) | | All wage earners (thousands) | |
|---|---|---|---|---|---|---|---|---|
| | Number (thousands) | | Percent of total | | | | | |
| | Durable goods | Nondurable goods | Durable goods | Nondurable goods | Durable goods | Nondurable goods | Durable goods | Nondurable goods |
| 1939: October | 340 | 1, 928 | [1] 8. 6 | [1] 39. 5 | 3, 627 | 2, 959 | 3, 967 | 4, 887 |
| 1940: October | 381 | 1, 889 | 8. 4 | 38. 7 | 4, 144 | 2, 990 | 4, 525 | 4, 879 |
| 1941: April | 445 | 1, 980 | 8. 5 | 39. 1 | 4, 798 | 3, 087 | 5, 243 | 5, 067 |
| October | 517 | 2, 226 | 8. 6 | 39. 9 | 5, 518 | 3, 355 | 6, 035 | 5, 581 |
| 1942: April | 577 | 2, 174 | 8. 9 | 39. 6 | 5, 923 | 3, 314 | 6, 500 | 5, 488 |
| October | 982 | 2, 354 | 13. 2 | 41. 3 | 6, 482 | 3, 348 | 7, 464 | 5, 702 |
| 1943: January | 1, 382 | 2, 384 | 17. 6 | 42. 4 | 6, 493 | 3, 244 | 7, 875 | 5, 628 |
| February | 1, 494 | 2, 421 | 18. 7 | 43. 0 | 6, 504 | 3, 214 | 7, 998 | 5, 635 |
| March | 1, 573 | 2, 442 | 19. 4 | 43. 4 | 6, 526 | 3, 186 | 8, 099 | 5, 628 |
| April | 1, 656 | 2, 456 | 20. 3 | 43. 9 | 6, 489 | 3, 134 | 8, 145 | 5, 590 |
| May | 1, 727 | 2, 445 | 21. 2 | 44. 2 | 6, 432 | 3, 092 | 8, 159 | 5, 537 |
| June | 1, 814 | 2, 462 | 22. 0 | 44. 2 | 6, 436 | 3, 109 | 8, 250 | 5, 571 |

[1] Derived from data of the 1939 Census of Manufactures: "Persons Employed in Manufacturing Establishments, by Sex," August 1941.

the transportation-equipment group, which employed only 1,800 women in October 1939 and employed more than 466,800 in June 1943. In the latter month women accounted for more than 20 percent of the total number of wage earners in this group, as compared with only 1 percent in October 1939.

**TABLE 4.**—*Estimated Number of Woman Wage Earners, by Major Industry Groups, in Specified Months, October 1939–June 1943*

| Industry group | Number (in thousands) | | | | |
|---|---|---|---|---|---|
| | 1939 | 1941 | 1942 | 1943 | |
| | October | April | April | April | June |
| Durable goods: | | | | | |
| Iron and steel | 68. 8 | 93. 2 | 124. 3 | 293. 9 | 317. 8 |
| Electrical machinery | 100. 3 | 131. 2 | 174. 2 | 313. 4 | 323. 6 |
| Machinery, except electrical | 28. 4 | 43. 0 | 62. 0 | 218. 9 | 240. 2 |
| Transportation equipment | 1. 8 | 4. 3 | 33. 1 | 410. 9 | 466. 8 |
| Automobiles | 29. 5 | 31. 6 | 20. 5 | 118. 2 | 142. 0 |
| Nonferrous metals | 34. 9 | 55. 4 | 56. 6 | 83. 4 | 91. 7 |
| Lumber and timber | 4. 1 | 8. 0 | 11. 6 | 49. 9 | 53. 0 |
| Furniture | 36. 9 | 31. 6 | 39. 9 | 82. 8 | 89. 9 |
| Stone, clay, and glass | 35. 3 | 46. 6 | 55. 2 | 84. 7 | 89. 3 |
| Nondurable goods: | | | | | |
| Textile-mill products | 527. 7 | 554. 9 | 587. 7 | 627. 0 | 620. 2 |
| Apparel | 626. 0 | 687. 9 | 729. 6 | 696. 1 | 669. 8 |
| Leather | 139. 6 | 149. 9 | 161. 1 | 169. 2 | 164. 5 |
| Food | 263. 8 | 177. 4 | 211. 6 | 245. 7 | 262. 1 |
| Tobacco | 64. 9 | 61. 2 | 62. 1 | 63. 0 | 60. 3 |
| Paper | 69. 4 | 71. 4 | 78. 1 | 96. 1 | 100. 2 |
| Printing and publishing | 59. 3 | 69. 6 | 71. 4 | 88. 1 | 92. 2 |
| Chemicals | 46. 0 | 59. 3 | 102. 4 | 219. 5 | 231. 2 |
| Petroleum and coal | . 3 | . 5 | . 8 | 5. 9 | 6. 9 |
| Rubber | 33. 0 | 42. 0 | 39. 9 | 68. 3 | 71. 4 |
| Miscellaneous | 98. 1 | 105. 5 | 129. 1 | 176. 9 | 182. 7 |

The extent to which certain industries employed women is best illustrated by the fact that 8 industries employed more than 100,000 women each in June 1943. These are aircraft, automobiles, boots and shoes, cotton goods, electrical equipment, machine-shop products, men's clothing, and women's clothing. An additional 10 industries employed more than 50,000 women. Further proof of the widespread utilization of women in manufacturing may be seen in the fact that in 30 industries women represent more than half of the total employment, while in only 6 do they account for less than 5 percent. In October 1939 women constituted less than 5 percent of the employment in 42 industries.

TABLE 5.—*Number of Women per 100 Wage Earners in Manufacturing Industries and Groups in Specified Months, October 1939 to June 1943*

| Industry group or industry | 1939 October[1] | 1941 April | 1942 April | 1943 | |
|---|---|---|---|---|---|
| | | | | April | June |
| All manufacturing | 25.6 | 23.5 | 22.9 | 29.9 | 30.9 |
| Durable goods | 8.6 | 8.5 | 8.9 | 20.3 | 22.0 |
| Nondurable goods | 39.5 | 39.1 | 39.6 | 43.9 | 44.2 |
| Iron and steel and their products | 6.2 | 6.8 | 7.9 | 17.0 | 18.5 |
| Blast furnaces, steel works, and rolling mills | 1 | 1 | 1 | 5 | 6 |
| Gray-iron and semisteel castings | 1 | (3) | (3) | 6 | 7 |
| Malleable-iron castings | 4 | (3) | (3) | 8 | 9 |
| Steel castings | (2) | (2) | (2) | 6 | 7 |
| Cast-iron pipe and fittings | (2) | (2) | (2) | 2 | 2 |
| Tin cans and other tinware | 28 | 30 | 31 | 39 | 41 |
| Wire drawn from purchased rods | 11 | 9 | 9 | 19 | 23 |
| Wirework | 22 | 21 | 20 | 28 | 31 |
| Cutlery and edge tools | 28 | 21 | 26 | 31 | 32 |
| Tools (except edge tools, machine tools, files, and saws) | 11 | 10 | 10 | 20 | 20 |
| Hardware | 23 | 27 | 28 | 35 | 36 |
| Plumbers' supplies | 5 | 5 | 6 | 18 | 19 |
| Stoves, oil burners, and heating equipment, not elsewhere classified | 3 | 4 | 5 | 25 | 25 |
| Steam and hot-water heating apparatus and steam fittings | 6 | 7 | 8 | 22 | 25 |
| Stamped and enameled ware and galvanizing | 23 | 21 | 22 | 34 | 36 |
| Fabricated structural and ornamental metalwork | (2) | (2) | 1 | 7 | 7 |
| Bolts, nuts, washers, and rivets | 14 | 13 | 15 | 26 | 29 |
| Forgings, iron and steel | (2) | 1 | (2) | 11 | 12 |
| Screw-machine products and wood screws | 12 | 14 | 24 | 32 | 35 |
| Steel barrels, kegs, and drums | 11 | (3) | (3) | 23 | 28 |
| Firearms | 5 | 3 | 8 | 24 | 27 |
| Electrical machinery | 33.9 | 31.9 | 33.5 | 45.1 | 46.1 |
| Electrical equipment | 17 | 24 | 26 | 39 | 40 |
| Communication equipment | 58 | 55 | 56 | 59 | 59 |
| Machinery, except electrical | 5.2 | 5.2 | 5.9 | 17.7 | 19.2 |
| Machinery and machine-shop products | 4 | 5 | 6 | 19 | 21 |
| Engines and turbines | 2 | 1 | 1 | 12 | 14 |
| Tractors | 1 | (2) | (2) | 8 | 12 |
| Agricultural machinery, excluding tractors | 1 | 1 | 1 | 7 | 12 |
| Machine tools | (2) | 1 | 2 | 12 | 13 |
| Machine-tool accessories | 3 | 5 | 6 | 20 | 20 |
| Textile machinery | 4 | 4 | 5 | 17 | 18 |
| Pumps and pumping equipment | 6 | 3 | 4 | 12 | 13 |
| Typewriters | [4] 32 | 35 | 35 | 39 | 39 |
| Cash registers, adding and calculating machines | [4] 16 | 20 | 21 | 32 | 34 |
| Washing machines, wringers, and driers, domestic | 4 | 6 | 9 | 31 | 36 |
| Sewing machines, domestic and industrial | 12 | 13 | 16 | 29 | 30 |
| Refrigerators and refrigeration equipment | 9 | 10 | 10 | 26 | 26 |
| Transportation equipment, except automobiles | 1.0 | .9 | 2.7 | 18.5 | 20.4 |
| Locomotives | 1 | (2) | (2) | 2 | 3 |
| Car building, electric and steam railroad | 1 | (2) | 1 | 6 | 9 |
| Aircraft and parts, excluding aircraft engines | [4] 1 | 1 | 6 | 37 | 39 |
| Aircraft engines | [4] 1 | 1 | 4 | 27 | 28 |
| Shipbuilding | (2) | (2) | (2) | 6 | 8 |
| Motorcycles, bicycles, and parts | 10 | 16 | 17 | 25 | 27 |
| Automobiles | 6.6 | 5.4 | 4.8 | 18.1 | 21.0 |
| Nonferrous metals and their products | 13.7 | 16.6 | 15.3 | 20.3 | 22.1 |
| Smelting and refining, primary, of nonferrous metals | (2) | (2) | (2) | 2 | 2 |
| Alloying and rolling and drawing of nonferrous metals, except aluminum | 7 | 9 | 10 | 17 | 18 |
| Clocks and watches | 48 | 47 | 48 | 51 | 53 |
| Silverware and plated ware | 22 | 25 | 23 | 33 | 32 |
| Lighting equipment | 26 | 26 | 23 | 29 | 32 |
| Aluminum | 10 | 7 | 4 | 12 | 15 |

**See footnotes at end of table.**

**Table 5.**—*Number of Women per 100 Wage Earners in Manufacturing Industries and Groups in Specified Months, October 1939 to June 1943*—Continued

| Industry group or industry | 1939 October | 1941 April | 1942 April | 1943 | |
|---|---|---|---|---|---|
| | | | | April | June |
| Lumber and timber basic products | 0.9 | 1.6 | 2.1 | 10.4 | 11.0 |
| Sawmills and logging camps | 1 | 1 | 2 | 9 | 9 |
| Planing and plywood mills | 1 | 2 | 3 | 15 | 17 |
| Furniture and finished lumber products | 10.3 | 8.4 | 10.3 | 23.0 | 25.1 |
| Mattresses and bedsprings | 18 | 16 | 17 | 33 | 35 |
| Furniture | 6 | 7 | 8 | 22 | 25 |
| Wooden boxes, other than cigar | 8 | 7 | 9 | 23 | 26 |
| Caskets and other morticians' goods | 20 | 17 | 17 | 22 | 23 |
| Wood preserving | (2) | (2) | (2) | 3 | 3 |
| Stone, clay, and glass products | 11.1 | 13.1 | 14.6 | 23.6 | 24.8 |
| Glass and glassware | 18 | 18 | 20 | 30 | 31 |
| Cement | (2) | (2) | (2) | 2 | 3 |
| Brick, tile, and terra cotta | 3 | 5 | 5 | 7 | 9 |
| Pottery and related products | 32 | 32 | 37 | 43 | 43 |
| Gypsum | (2) | (2) | (2) | 11 | 11 |
| Wallboard, plaster (except gypsum), and mineral wool | 1 | 1 | 1 | 16 | 21 |
| Lime | (2) | (2) | (2) | 1 | 2 |
| Abrasive wheels | 16 | 14 | 14 | 37 | 38 |
| Textile-mill products and other fiber manufactures | 43.4 | 43.9 | 45.1 | 50.0 | 50.3 |
| Cotton manufactures, except smallwares | 38 | 39 | 40 | 45 | 45 |
| Cotton smallwares | 53 | 52 | 57 | 62 | 63 |
| Silk and rayon goods | 50 | 52 | 52 | 58 | 58 |
| Woolen and worsted manufactures, except dyeing and finishing | 41 | 42 | 42 | 47 | 47 |
| Hosiery | 61 | 60 | 62 | 67 | 68 |
| Knitted cloth | 38 | 46 | 45 | 51 | 51 |
| Knitted outerwear and knitted gloves | 76 | 74 | 78 | 80 | 79 |
| Knitted underwear | 76 | 74 | 74 | 78 | 78 |
| Dyeing and finishing textiles, including woolen and worsted | 17 | 18 | 21 | 28 | 29 |
| Carpets and rugs, wool | 31 | 30 | 30 | 37 | 38 |
| Cordage and twine | 33 | 31 | 32 | 43 | 44 |
| Apparel and other finished textile products | 74.0 | 76.1 | 76.6 | 78.3 | 78.8 |
| Men's clothing, not elsewhere classified | 66 | 68 | 69 | 72 | 73 |
| Shirts, collars, and nightwear | 88 | 86 | 88 | 89 | 89 |
| Underwear and neckwear, men's | 87 | 85 | 86 | 89 | 89 |
| Work shirts | 91 | 89 | 89 | 92 | 91 |
| Women's clothing, not elsewhere classified | 78 | 81 | 80 | 80 | 80 |
| Corsets and allied garments | 90 | 87 | 88 | 89 | 89 |
| Millinery | 69 | 70 | 68 | 71 | 68 |
| Handkerchiefs | 94 | 90 | 92 | 94 | 94 |
| Housefurnishings, other than curtains, etc | 64 | 62 | 61 | 74 | 75 |
| Textile bags | 66 | 63 | 68 | 73 | 70 |
| Leather and leather products | 40.0 | 40.2 | 41.7 | 48.9 | 49.4 |
| Leather | 9 | 9 | 9 | 16 | 17 |
| Boot and shoe cut stock and findings | 30 | 30 | 33 | 35 | 36 |
| Boots and shoes | 45 | 47 | 49 | 56 | 57 |
| Leather gloves and mittens | 61 | 64 | 65 | 72 | 72 |
| Trunks and suitcases | 30 | 31 | 39 | 51 | 52 |
| Food | 28.4 | 21.3 | 23.7 | 27.0 | 27.5 |
| Slaughtering and meat packing | 15 | 15 | 16 | 21 | 22 |
| Condensed and evaporated milk | 3 | 7 | 7 | 13 | 14 |
| Ice cream | 17 | 12 | 17 | 21 | 24 |
| Flour | 2 | 3 | 3 | 7 | 7 |
| Cereal preparations | 29 | 31 | 30 | 34 | 36 |
| Baking | 15 | 20 | 22 | 29 | 29 |
| Sugar refining, cane | 7 | 8 | 10 | 18 | 19 |
| Sugar, beet | 1 | (2) | (2) | 3 | 6 |
| Confectionery | 67 | 61 | 60 | 63 | 62 |
| Malt liquors | 1 | 1 | 1 | 7 | 9 |
| Canning and preserving | 56 | 40 | 42 | 43 | 42 |
| Tobacco manufactures | 66.9 | 66.5 | 66.8 | 67.7 | 67.8 |
| Cigarettes | 48 | 49 | 49. | 55 | 54 |
| Cigars | 80 | 79 | 80 | 80 | 81 |
| Tobacco (chewing and smoking) and snuff | 50 | 47 | 46 | 50 | 52 |
| Paper and allied products | 24.0 | 23.8 | 24.0 | 30.8 | 31.6 |
| Paper and pulp | 8 | 9 | 9 | 14 | 16 |
| Paper goods, other | 35 | 36 | 39 | 46 | 47 |
| Envelopes | 56 | 55 | 56 | 58 | 58 |
| Paper bags | 51 | 48 | 41 | 48 | 47 |
| Paper boxes | 41 | 38 | 39 | 46 | 47 |

**See footnotes at end of table.**

**Table 5.**—*Number of Women per 100 Wage Earners in Manufacturing Industries and Groups in Specified Months, October 1939 to June 1943*—Continued

| Industry group or industry | 1939 October | 1941 April | 1942 April | 1943 | |
|---|---|---|---|---|---|
| | | | | April | June |
| Printing, publishing, and allied products | 17.8 | 20.7 | 21.6 | 26.7 | 27.6 |
| Newspapers and periodicals | 8 | (3) | (2) | 9 | 10 |
| Printing, book and job | 23 | 26 | 27 | 35 | 36 |
| Lithographing | 22 | 24 | 24 | 35 | 38 |
| Bookbinding | 42 | 42 | 43 | 51 | 51 |
| Chemicals and allied products | 14.7 | 15.0 | 17.8 | 29.5 | 31.2 |
| Paints, varnishes, and colors | 5 | 5 | 6 | 12 | 13 |
| Drugs, medicines, and insecticides | 42 | 46 | 47 | 56 | 56 |
| Perfumes and cosmetics | 69 | 62 | 66 | 69 | 67 |
| Soap | 17 | 17 | 16 | 23 | 23 |
| Rayon and allied products | 26 | 24 | 24 | 32 | 34 |
| Chemicals, not elsewhere classified | 3 | 4 | 4 | 10 | 10 |
| Compressed and liquefied gases | 1 | (2) | (2) | 5 | 5 |
| Ammunition, small-arms | 32 | (3) | 36 | 48 | 49 |
| Cottonseed oil | 1 | (2) | 2 | 3 | 5 |
| Fertilizers | (2) | 1 | 2 | 6 | 6 |
| Products of petroleum and coal | .3 | .4 | .6 | 4.8 | 5.5 |
| Petroleum refining | (2) | (2) | 1 | 4 | 5 |
| Roofing materials | 1 | 1 | 1 | 8 | 13 |
| Rubber products | 24.6 | 27.8 | 28.1 | 36.7 | 37.8 |
| Rubber tires and inner tubes | 14 | 16 | 18 | 29 | 30 |
| Rubber goods, other | 28 | 31 | 30 | 40 | 42 |
| Miscellaneous industries | 36.6 | 34.7 | 35.7 | 43.9 | 44.9 |
| Professional and scientific instruments and fire-control equipment | 15 | 14 | 16 | 41 | 42 |
| Photographic apparatus | 26 | 22 | 22 | 35 | 35 |
| Optical instruments and ophthalmic goods | 33 | 30 | 32 | 42 | 42 |
| Pianos, organs, and parts | 10 | 13 | 11 | 23 | 24 |
| Games, toys, and dolls | 51 | 45 | 48 | 52 | 53 |

[1] Derived from data of the 1939 Census of Manufactures: "Persons Employed in Manufacturing Establishments, by Sex," August 1941.
[2] Less than 1.
[3] Not available.
[4] Derived from Census data by estimation.

In the preceding tables sex-ratio data are shown for 132 industries from October 1939 to June 1943. Ratios for October 1939 are derived from the 1939 Census of Manufactures release, "Persons Employed in Manufacturing Establishments, by Sex." Data from October 1940 through June 1943 are based upon reports to the Bureau of Labor Statistics from manufacturing establishments. For June 1943, reports were received from approximately 23,000 establishments, employing more than 8 million wage earners. This number represents about three-fourths of the establishments which report employment each month and constitutes more than four-fifths of the wage earners in the complete sample.

Each series published is based on a sample covering at least one-fifth of the estimated wage-earner employment for the entire industry. Half the series are based on samples covering 60 percent or more of the estimated wage-earner employment; 10 percent on samples greater than 90 percent.

U. S. GOVERNMENT PRINTING OFFICE: 1943

Information Div

Vocational Division
Bulletin No. 227

Occupational Information
and Guidance Series No. 11

# WARTIME WORK for GIRLS AND WOMEN

## Selected References, June 1940 to July 1943

Federal Security Agency, U. S. OFFICE OF EDUCATION

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# WARTIME WORK for GIRLS AND WOMEN

## Selected References, June 1940 to July 1943

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# FOREWORD

THE ANNOTATED references in this bibliography cover books and pamphlets, bulletins, and periodical articles on occupations and on vocational guidance and training for girls and women from July 1940 through June 1943. Previous bibliographies in this series included references up to 1934 and from January 1935 through June 1940, respectively.

During the period covered by this bibliography emphasis has been placed on occupations necessary to the success of the war effort and on essential civilian service activities. Relatively slight attention has been given to some occupations previously considered essentially "women's work."

References to all publications have been grouped together alphabetically, under the following heads: Occupational information; occupational biographies and fiction; training opportunities; policies and practices in the guidance and employment of women; women's status with respect to work and education; surveys; bibliographies and other source material.

Particular attention is directed to the occupational information index and to the subject index which make possible the selection of any aspect of wartime work and training for girls and women covered in the references.

While the compilers endeavored to examine every publication within their facilities for research, the bibliography is not all-inclusive. Items of a purely local character, those only remotely connected with the war effort, and those not readily accessible in well-equipped libraries were excluded.

The bibliography does not include publications on techniques for training workers, or for improving their skills, nor does it include descriptions of curricula or references to general vocational principles and practices.

It was prepared by Mrs. Marguerite Zapoleon and Louise Moore under the direction of their respective chiefs, Harry A. Jager, Chief of the Occupational Information and Guidance Service, and Layton S. Hawkins, Director, Vocational Training for War Production Workers.

J. C. Wright
*Assistant U. S. Commissioner*
*for Vocational Education*

# WARTIME WORK FOR GIRLS AND WOMEN

## Selected References, June 1940 to July 1943

### OCCUPATIONAL INFORMATION

THIS SECTION of the bibliography includes occupational descriptions written for girls and women; descriptions of occupations and reports of surveys of occupations or industries in which women predominate or in which their services are extensively used; and other references which supply occupational information to girls and women considering vocational plans or to persons seeking facts about women's part in the war effort.

1. **Aides relieve nurse shortage.** Life, 12: 33–34, Jan. 5, 1942.

Need for professional nurses and for nurse aides presented with visual aids.

2. **Alabama College.** The 1941 student career conference. Montevallo, Ala. The College, October 1941. 76 p., illus. (Bulletin vol. 34, no. 2.)

The proceedings of the 1941 career conference for girl high-school graduates and students of high standing. A general overview of occupational opportunities and suggestions for deciding upon a vocation and for vocational success are followed by information on specific fields as described by women employed in them.

3. **Alsop, Gulielma Fell** *and* **McBride, Mary Frances.** She's off to work. A guide to successful earning and living. New York, N. Y., Vanguard Press, 1941. 276 p.

Advice to girls on obtaining a job and on leading a full life is given directly and indirectly by describing the experiences of two girls who go to New York to work.

4. **American Association of Medical Social Workers.** Medical social work as a career. Chicago, Ill., The Association, 205 W. Wacker Drive, 1942. 8 p.

Addressed to college students, this leaflet describes the social problems which often accompany illness and the responsibilities of medical social workers in meeting them. Qualifications, areas of service, salaries, undergraduate and graduate preparation are discussed, and training centers are listed.

5. ——— Medical social workers are needed. Chicago, Ill., The Association, 205 W. Wacker Drive, 1942. 7 p.

Addressed to students already in training for social work, this pamphlet describes the acute shortage of medical social workers, types of employment, duties, and preparation. Lists accredited schools where training may be secured.

6. **American Association of Schools of Social Work.** Education for the public social services. Chapel Hill, N. C., University of North Carolina Press, 1942. 324 p.

Report of a study committee of the American Association of Schools of Social Work which reports existing practices and makes recommendations for improving education for the social service work in public agencies. Chapter VII on personnel policies discusses existing methods of employment, in-service training, promotion, and remuneration.

7. **American Association of Schools of Social Work.** Social work as a profession. Pittsburgh, Pa., The Association, 1942. 35 p.

"Intended to help the college student explore the possibilities, requirements, and undergraduate education recommended for social work," this pamphlet describes the nature, scope, and future prospects of social work; qualifications, salary, and other rewards; employment opportunities in social case work, social group work, community organization, social research, and social administration; preprofessional education; and professional education for social work. A list of member schools of the Association, a list of professional organizations in the field of social work and a bibliography complete the pamphlet.

8. ——— The social worker. Pittsburgh, Pa., The Association, 1942. 11 p.

Addressed "to high-school students" this pamphlet describes what the social worker does, what qualifications and training are necessary, where one gets a social work job, and the salaries social workers receive. It states that "a well-balanced rather than a highly specialized program is usually considered the best preparation in the preprofessional program.

9. **American Council on Education.** Higher education and national defense bulletin. Washington, D. C., The Council. Issued periodically.

Contains reports of training and employment opportunies for college women prepared by the Committee on College Women Students and the War, formerly the Committee on Women in College and Defense. Policies with regard to education and employment are also discussed from time to time.

10. ——— War service opportunities for college and university students. Washington, D. C., The Council. Issued periodically.

This circular contains current information of interest to college women such as latest Civil Service examinations for which they may qualify and information on the demand for college women in private industry, in the Red Cross, and in particular occupations. Material is presented in loose-leaf form for use as a counselor's manual.

11. **American Dental Association, Council on Dental Education.** Dentistry as a professional career. Chicago, Ill., The Association, 1941. 72 p.

In part V the occupations of the dental hygienist and dental assistant are discussed as offering wide opportunity for women. Information is given on number and need for workers, duties, qualifications, organizations, training, licensing, legislation, and income.

12. **American Dental Hygienists' Association.** Facts about dental hygiene—a career for women. Arlington, Va., The Association, % Rebekah A. Fisk, 1704 North Troy Street, 1943. 8 p.

Defines the dental hygienist and describes her duties, places of employment, and the statutory requirements for a license to practice dental hygiene in 32 States, Hawaii, and the District of Columbia. Seventeen recognized training schools are listed with the date of their organization, length of course, and fees. Requirements for entrance to training courses, and personal requirements for success in dental hygiene are discussed. The field is described as a new one, not well-established but growing.

13. **American Dietetic Association.** Dietetics as a profession. Chicago, Ill., The Association, 1942. 23 p. and appendix.

A short history of dietetics as a profession followed by a discussion of the various fields of work, training required, methods of obtaining a position, conditions of work, and personal qualifications desirable. A short bibliography is included.

14. **American Home Economics Association.** Preparation for the business field of home economics. Washington, D. C., The Association, 1942. 24 p.

For the school girl studying home economics, home economics jobs in advertising and sales promotion, writing, research, restaurant and hotel work, proprietorship, and administration are described. Duties, qualifications, preparation, income, and suggestions for getting and keeping the job are covered.

15. **American Library Association.** Chicago, Ill., The Association, 1942.
The A. L. A.—What it is and does. 2 p.
Personnel division procedure. 1 p. (free placement service for libraries).

Preparation for library service. 1 p. (bibliography).
Training for library work. 3 p.
To those inquiring about (Army) camp library positions. 2 p.

Current information on the Association's activities, its placement service, library training, and library positions in Army camps.

16. **American Occupational Therapy Association.** What is occupational therapy? New York, N. Y., The Association, 175 Fifth Ave., 1942. 8 p.

Describes occupational therapy and its uses; lists schools approved by the American Medical Association and the requirements for registration of occupational therapists; outlines the work of the American Occupational Therapy Association; and lists State and regional groups.

17. **American Registry of X-Ray Technicians.** Training of X-ray technicians; rules and regulations governing registration of X-ray technicians, 1941–42. Oak Terrace, Minn., Glen Lake Sanatorium, 1941. 15 p.

Describes the work, qualifications, and training curricula of X-ray technicians and the requirements for registration. A list of approved training courses and a free placement service for registered X-ray technicians are maintained by the Registry.

18. **Amidon, Beulah.** Arms and the women. Survey, 31: 244–248, 271, May 1942.

Describes the increasing use of women in war industries, the available supply of women workers, their training, wages, and hours. Provision for the care of children whose mothers are employed in war work is also discussed.

19. ——— Better nursing for America. New York, N. Y., Public Affairs Information Committee, 20 Rockefeller Plaza, 1941. 32 p., illus.

Presents in popular style the need for nurses in meeting defense demands, the type of work being done by nurses, the cost of nursing service, earnings of nurses, and the procedure for becoming a nurse. Bibliography.

20. ——— Woman's place in the defense program. Educational record, 22: 403–413, July 1941.

A review of the use and training of women as defense workers, as workers in essential civilian fields, and as volunteer workers.

21. **Anderson, Mary.** Women in war industries. Personnel 18: 195–207, January 1942.

This article describes the findings of the Women's Bureau with regard to the use of women in aircraft production, instrument manufacture, and other war industries. It discusses recruitment, training and standards for wages, hours, and working conditions.

22. ——— Women in war industry. American federationist, 49: 18–19, 32, March 1942.

Reports that "the Women's Bureau estimates that nearly 6,000,000 women can be recruited for work in war industries at once, if necessary." Discusses the present and potential use of women in aircraft, ordnance, and instrument manufacturing. Describes employer satisfaction with women workers and discusses labor standards and other problems.

23. **Andrews, Benjamin R.** The household employee. Journal of home economics, 34: 158–160, March 1942.

Describes problems of domestic employment, lists available literature, and suggests remedies for existing difficulties.

24. **Arthur, Julietta K.** Now you can learn to fly. Independent woman, 19: 320–321, 336, October 1940.

Work of the "Woman Flyers of America", an organization which helps women to learn to fly at reasonable cost.

25. **Aviation jobs for women.** Vocational trends, 6: 18–19, February 1943.

A short discussion of work for women in aviation.

26. **Babcock, Fern.** Strategic vocations for enduring freedom. Vocational selections for college women in wartime. New York, N. Y., National Student Council, Y. W. C. A., January 1943, 32 p.

Addressed to college girls, this pamphlet discusses the obligations of college women in wartime and the types of vocations in which they can serve. Suggestions for vocational selection for Y. W. C. A. vocations and committee chairmen are included. Bibliography.

27. **Bailey, Margaret.** Dental hygiene as a career for women. Occupations, 21: 638–642, May 1943.

The chairman of the Student Enrollment Committee of the American Dental Hygienists Association describes the work and fields of practice of dental hygienists, qualifications, training, employment possibilities, income, hours, demand, and future outlook. Statistics on supply and demand show the urgent need for dental hygienists. State licensing requirements by State are given and schools of dental hygiene are listed.

28. **Baker, Laura Nelson.** Wanted: women in war industry. New York, N. Y., E. P. Dutton & Co., Inc., 1943. 215 p., illus.

Presents the need for women workers in war industries, describes types of work done, working conditions, how jobs and training are obtained. Machine operating, benchwork, riveting, welding, inspecting, hand sewing, and jobs in aircraft manufacturing are described in detail. Labor laws for women are given in the appendix.

29. **Banfield, Gertrude S.** American nurses—we are at war. American journal of nursing, 42: 354–358, April 1942.

Describes nursing work in the armed forces, qualifications, and methods of application.

30. **Banning, *Mrs.* Margaret Culkin.** Women for defense. New York, N. Y.. Duell, Sloan, & Pearce, 1942. 243 p.

Describes for the lay reader what women did in the last war; traces several trends in their education and work opportunities following the war and their responsibilities as citizens; discusses the activities of women in the present war in this country and abroad; and points out the obligations of women in the post-war period.

31. **Barnard, Eunice Fuller.** Definitely woman's work. Independent woman, 21: 106–108, April 1942.

Discusses increased need for nursery school teachers; gives facts about training, qualifications, duties, and salaries.

32. **Barrett, Theodore.** Your job and American victory. New York, N. Y., George W. Stewart, Publisher, inc., 1942. 294 p.

Chapter 9 on women in national defense briefly discusses their part in manufacturing and miscellaneous occupations, in the home, and in volunteer defense work.

33. **Bartlett, Kenneth G., *and* Miller, Douglass W.** Occupations in radio. Chicago, Ill., Science Research Associates, 1940. 48 p.

Chapter 7 briefly describes women in radio, discussing most and least promising jobs for them.

34. **Belknap, Fredericka.** New opportunities open for college women. School and college placement, 2: 41–44, May 1942.

Need for women trained in chemistry, physics, mathematics, engineering, and drawing is stressed. New openings in office supervisory work, accounting, statistics, and insurance work as well as increased demand for secretaries, especially for the scientific secretary, are discussed by the director of the personnel bureau of the New Jersey College for Women.

35. **Bellman Vocational and Professional Monographs.** Boston, Mass., Bellman Publishing Co.

Accounting. By Jeremia Lockwood *and* Calvin H. Rankin. 1940. 39 p.
Advertising. By Herbert H. Smith. 1941. 20 p.
Adult education. By Wilbur C. Hollenbeck. 1941. 24 p.
Business administration. By Gilbert A. Cam. 1940. 27 p.
Chiropody (Podiatry). By Joseph Lelyveld. 1941. 23 p.
Cookery. By Alice Bradley. 1940. 18 p.

**Costume design. By Marion Neelsen. 1941. 20 p.**
**Direct mail advertising. By Henry Reed Hoke. 1940. 27 p.**
**Fine and applied arts. By Royal Bailey Farnum. 1941. 24 p.**
**Government service. By George C. Doyle. 1941. 14 p.**
**Hotel business. By Richard T. Huntington. 1940. 28 p.**
**Interior decoration. By Skerrill Whiton. 1941. 15 p.**
**Journalism. By Carroll A. Lake. 1940. 60 p.**
**Library work. By Ruth Shaw Leonard. 1940. 28 p.**
**Medicine. By Dwight O'Hara. 1940. 26 p.**
**Modeling. By Harry Conover. 1941. 12 p.**
**Music. By Everett B. Helm. 1940. 43 p.**
**Nursing. By Cecilia L. Schulz. 1941. 19 p.**
**Occupational therapy. By Marjorie B. Greene, Dorothea Cook Lythgoe, *and* Marjorie Fish. 1941. 28 p.**
**Office machines. By Peter L. Agnew. 1941. 16 p.**
**Program side of radio. By George Jennings. 1941. 15 p.**
**Osteopathy. By Thomas Rankin Thorburn. 1941. 24 p.**
**Railroad industry. By Bernard E. Young. 1941. 20 p.**
**Religion. By James A. Nichols, jr. 1941. 36 p.**
**Restaurant business. By Walter O. Voegele. 1941. 32 p.**
**Retailing (for women and men). By Elsie K. Chamberlain *and* Muriel M. Cox. 1941. 32 p.**
**Social work. By R. Clyde White. 1941. 28 p.**
**Teaching. By William H. Burton. 1940. 40 p.**
**Telegraph industry. By George P. Oslin. 1941. 19 p.**

Each of these occupational monographs opens with a statement of the author's qualifications as an authority in the field he describes and each ends with a bibliography. The contents differ but usually cover: History, development, and trends in the field of work discussed; the duties and qualifications of those engaged in the principal occupations in the field; a description of earnings, advancement, and advantages and disadvantages. Lists of training centers and of organizations and periodicals are given in some cases. Opportunities for women are discussed separately in those dealing with occupations in which men predominate.

36. **Birdwell, Russell.** Women in battle dress. New York, N. Y., The Fine Editions Press, 1942. 198 p., illus.

Describes women's war service in Great Britain in military organizations and in civil defense, civilian organizations, agricultural, and industrial work. The three final chapters briefly describe the WAACS, the WAVES, the American Women's Voluntary Service, and the WAFS.

37. **Black, Ruby.** We're in the army now. Independent woman, 21: 198–200, 214, July 1942.

The requirements for admission and the duties of the following services are briefly outlined: Women's Army Auxiliary Corps and the Army and the Navy Nurse Corps. Positions in the Air Corps, Quartermaster Corps and Chemical Warfare Service are discussed. A brief résumé of the duties of stenographic and clerical workers for the armed forces is given.

38. **Bloodworth, Bess.** So you want to be a personnel director. Independent woman, 20: 48–50, February 1941.

This article defines the work of a personnel director, discusses various fields—educational, public service, social services—where personnel techniques are used, and tells of the education and training which are desirable.

39. **B'Nai B'Rith Vocational Service Bureau.** Victory through womanpower. How you can find a place in war work. Washington, D. C., The Bureau, 1943. Folder, illus.

Pictorial presentation of the variety of possibilities for women who want to engage in war work and a list of sources of information about war jobs.

40. **Brisco, Norris A., Griffith, Grace *and* Robinson, O. Preston.** Store salesmanship. New York, N. Y., Prentice-Hall, 1941. 471 p., illus. (Rev. ed.)

The first chapter deals with opportunities and qualifications for the occupations of salesperson, head of stock, assistant buyer, buyer, and merchandise manager. Chapter 2 discusses personality traits needed for success in store salesmanship. Chapter 12 describes the salesperson's nonselling duties, and chapter 16 describes work payment plans.

41. **Bromley, Dorothy Dunbar.** Do you want to be a nurse? Good housekeeping, 114: 42–43, March 1942.

Discusses need for nurses, qualifications, rewards, and working conditions in military services. The number of nursing schools, the type of schedule a student nurse is likely to have, the cost of training, and considerations in choosing a nursing school are also covered.

42. **Brunn, Walter.** Gals make good as Tide Water gas service station attendants. Sales management, 51: 20–22, Oct. 10, 1942.

Women make good gas station attendants; some points of selection and training are stressed; wages, commissions, hours of work, and uniforms are discussed.

43. **Buchanan, Aimee.** The lady means business. New York, N. Y., Simon & Schuster, 1942. 318 p.

"For women office workers who want to gain executive standing," this book outlines 19 basic office jobs for women, discusses 15 fields of business which offer the most opportunities for women, and offers advice (described as Machiavellian) to beginners and women already in business as to how they can overcome discrimination and get along with various types of men executives and obtain executive positions. Census and other pertinent data are given in the appendix.

44. **Buell, Ellen L.** Public health nursing—a contribution to the community health program. Pi lambda theta journal, 20: 61–63, December 1941.

This article gives information about the field of public health and the activities of public health nurses.

45. **Burns, Robert K.** Opportunities for working women today. Journal of national association of deans of women, 4: 109–112, March 1941.

A brief summary of new occupational opportunities open to women because of defense needs.

46. **Burstein, Herbert,** *ed.* Handbook of careers. New York, N. Y., Thesis Publishing Co., 1941. 120 p.

Includes chapters on secretarial work, costume design and fashion illustration, modeling, and dietetics. In each case the work is defined and opportunities, training, qualifications, and income are discussed.

47. ——— Women in war. New York, N. Y., Service Publishing Co., 1943. 166 p., illus.

Describes the duties, qualifications, pay, promotional opportunities, and working conditions of the WACS and the WAVES, including copies of application blanks. The SPARS, the Army and Navy Nurse Corps, the WAFS, and Civil Service positions in the Army and Navy are described more briefly.

Volunteer services in Red Cross, U. S. O., women's organizations, and civilian defense are described in detail. Miscellaneous information is given on women in war industry and much attention is devoted to descriptions of war training programs.

48. **Byers, Margaretta.** Help wanted—female. New York, N. Y., Julian Messner, Inc., 1941. 386 p., illus.

Writing informally in the first person, the author describes fashion occupations, especially the following: Comparison shopper, salesperson, buyer, stylist, designer, clothes counselor, fashion artist, copywriter, fashion reporter, and model. Discussions of self-analysis, training, vocational tests, and job hunting supplement the occupational information.

49. **Campfire Girls, Inc., Girl Reserve Staff National Board Y. W. C. A., *and* Girl Scouts.** Farm aides. New York, Woman's Press, 1943. 46 p., illus.

This guide for use in training supervisors of groups of high-school girls who engage in emergency farm work discusses the need for farm aides, the kind of work they can do and what training they need, organization and standards, and resources available.

50. **Carey, John L.** Women accountants. The woman C. P. A., 5: 67–68, October 1942.

The secretary of the American Institute of Accountants and editor of the *Journal of Accountancy* discusses the increasing emphasis on good accounting practices and the increasing opportunities for women accountants, giving as an example of the latter the Bureau of Internal Revenue's plan to train a limited number of women C. P. A.'s as revenue agents. Suggests stimulating the interest of women college students in accounting courses.

51. **Carlisle, Norman V.** Calling all girls. Scholastic, 42: 31, Feb. 22, 1943.

A brief account of war production jobs where women are needed, and of the best method of finding such jobs and obtaining necessary training.

52. ——— Your career in chemistry. New York, N. Y., E. P. Dutton & Co., Inc., 1943. 251 p., illus.

Chapters 15 and 16 discuss the opportunities and handicaps of women who seek a career in chemistry. Laboratory work, technical secretarial work, technical library and bibliographical work, and patent work are particularly discussed.

53. ——— *and* **McFerran, Doris.** Civil service careers for girls. New York, N. Y., E. P. Dutton & Co., Inc., 1941. 202 p., illus.

Information on Federal, State, and city civil service work presented briefly in dialog. The fields of clerical service, law, health service, home economics, social work, writing and editing, economics and statistics, library work, science, teaching, and miscellaneous jobs are covered. Duties, qualifications, training, and salaries are discussed in each case.

54. **Carter, Helen M.** Home economics and the college student: An introductory college course. New York, N. Y., Farrar & Rinehart, Inc., 1940. 372 p.

In Part III the following occupations open to home economics women are discussed: Teaching, extension work, dietetics, institutional administration and management, commercial work, book work, insurance, journalism, research, costume design, interior decoration, and social work. Duties, qualifications, and approximate salaries are given. A special chapter on homemaking as a career discusses training needed for homemaking, marriage, and a career; another chapter discusses briefly women's progress in industry and the professions.

55. **Christie, Margaret.** White collar women behind defense. Independent woman, 20: 324–326, 349, November 1941.

An account of the office work which must be done in connection with war production industries.

56. **Clark, Blake.** Ladies of the army. Reader's digest, 42: 85–88, May 1943.

The training and work of the WACS are described.

57. College women and war industry. Journal of the American asssociation of university women, 36: 131–170, spring 1943.

Report of a conference held in February 1943 called to discuss the opportunities for trained women, adaptations necessary for their training programs, and cooperation desirable between industry and women's colleges.

58. College women in war work. Northampton, Mass., Smith College Vocational Office, 1943. pages not numbered.

A summary of openings for inexperienced women with college training in various fields of war service. It contains a listing of basic training, additional training and extent of demand for employees for various kinds of work, short job descriptions, and a summary of organizations requiring persons with designated training.

59. **Colvin, Esther M.** Another women's land army? Independent woman, 21: 387–388, January 1943.

Discusses plans and possibilities for women as workers on farms during war period.

60. **Commins, W. D.** The interest pattern of student nurses. Occupations, 21: 387–388, January 1943.

Report of a study of 126 student nurses which finds that the student nurse has a distinct pattern of interests as measured by means of the Cleeton Vocational Interest Inventory.

61. **Coulter, John S.** Physical therapy technicians needed. Crippled child, 19: 143, 161, April 1942.

Describes the need for young students to take physical therapy training to meet increasing Army and civilian hospital needs. A partial list of training centers is given. (*See also* pp. 145–147; 163–164 for discussion of "the role of the physical therapist in the care of the crippled child" by Anna L. Mulcahey.)

62. **Curti, Merle.** American women of light and learning. Pi lambda theta journal, 20: 35–41, December 1941.

A discussion of the contribution to scholarship made by various American women.

63. **Davey, Mildred A., Smith, Elizabeth M.,** *and* **Myers, Theodore R.** Everyday occupations. Boston, Mass., D. C. Heath & Co., 1941. 372 p., illus.

This well-illustrated occupational text includes descriptions of the following occupations in which women predominate: Air stewardess, telephone operator, department store salesperson, sewing machine operator, telephone order clerk, private duty nurse, supervisor of nurses, superintendent of nurses, laboratory technician, dietitian, medical record librarian, visiting nurse, hotel housekeeper, waitress, dining room hostess, beauty operator, office machine operator, stenographer, and secretary. In each case the work, conditions of work, personal qualifications, education and training, earnings, and opportunities for employment are described.

64. **Davidson, Dora.** Friend to farm women. Independent woman, 20: 146–148, May 1941.

This description of the work of a county home demonstration agent tells something about the preparation necessary for the work, and the wages paid.

65. **Davis, John Eisele.** Employment is nature's best physician. Hygeia, 20: 268–269, 296, April 1942.

Presents the historical development of occupational therapy, the types of places in which it is useful, what it includes, and how it is employed effectively with mental patients.

66. **Davis, Shelby Cullom.** Women man the industrial front. Scholastic, 40: 27, April 13, 1942.

An article giving a short description of various war production jobs open to women.

67. **Deems, Marie.** Railroads recruit women workers. Railway age, 113: 375–377, Sept. 5, 1942.

Many women will be needed by railroads in many capacities.

68. Defense shortage: teachers. Vocational trends, 5: 17–18, January 1942.

Teachers are needed throughout the United States. There is a lack of elementary teachers, rural teachers, and industrial arts teachers.

69. **DeHaven, Robert,** *and* **Kahm, Harold S.** How to break into radio. New York, N. Y., Harper & Bros., 1941. 162 p.

Includes descriptions of the work of the director of women's activities, traffic clerk, and studio hostess, and a few examples of how some women have broken into radio.

70. **De Schweinitz, Dorothea.** Occupations in retail stores. Scranton, Pa., International Textbook Company, 1941. 422 p. (Rev. ed.)

A revised edition of the 1937 publication presenting data obtained in a Nation-wide study of retail store occupations sponsored by the National Vocational Guidance Association and the U. S. Employment Service. All major occupations in the retail field are covered and statistical information obtained in the study and from the Census is summarized. Detailed information is given on duties, qualifications, training, hours, income, and promotion.

71. **De Shong, Andrew.** Hand that rocks the Axis. Collier's, 110: 14–15, July 11, 1942.

Short illustrated discussion of the work done by women workers at an aviation plant in Texas.

72. **Detzer, Karl.** Ladies of the law. Reader's digest, 40: 23–26, March 1942.

An account of the work of policewomen in Detroit.

73. **Dignam, Dorothy.** More women in advertising now than in World War I. Printers ink, 159: 16–17, May 29, 1942.

There are many new opportunities for women in the advertising field.

74. **Dilts, Marion May.** The telephone in a changing world. New York, N. Y., Longmans, Green & Co., 1941. 219 p., illus.

Chapter V on telephone operators describes the history of the occupation and the present hiring, training, and work procedures in a telephone system.

75. **Downer, Marion.** Be an artist. New York, N. Y., Lothrop, Lee & Shepard Co., 1941. 118 p., illus.

An artist suggests techniques of obtaining work in the art field and discusses specifically: Fashion work, children's fashions, furniture and interior design, "spots" work, hand lettering, magazine illustration, book illustration, book jackets and end paper design, poster work, lay-out work, art directing.

76. **Eaves, Elsie.** Wanted: women engineers. Independent woman, 21: 132–133, 158–159, May 1942.

An article dealing with the needs for fully trained professional engineers and for subprofessional workers. Colleges where they can obtain training are listed; brief biographies of several women engineers are included; a short bibliography is appended.

77. Educational qualifications of industrial hygienists. American journal of public health, 31: 728–730, July 1941.

A preliminary report of the Subcommittee on Educational Qualifications of Industrial Hygienists of the Committee on Professional Education of the American Public Health Association gives numbers employed in industrial hygiene and discusses their education and training by commending desirable qualifications. Industrial public health nurses as well as industrial physicians and public health engineers are included.

78. Electrical jobs for women. Vocational trends, 6: 16–17, March 1943.

A short description of some of the jobs open to women in the electrical industry, with information about wages and hours.

79. Enter women to do men's work. Factory management and maintenance, 100: 54–55, April 1942.

This is a short description of the training given women workers at a rubber company.

80. **Evans, Ernestine.** The sky is no limit. Independent woman, 21: 326–328, 346, November 1942.

A discussion of the training and work of the Women's Auxiliary Ferry Squadron, and of such services as flying instructor, aircraft communicator, traffic controller, junior meteorologist worker in an airplane factory, aircraft engineer. A list of offices is given where further information is available.

81. **Fargo, Lucile F.** Treasure shelves; the way of life in a library. Evanston, Ill., Row, Peterson & Co., 1941. 64 p., illus.

Well-illustrated pamphlet in which the work of a public library and its librarian in a town of 20,000 population are simply and comprehensively described.

82. **Faust, J. Frank,** *ed.* The girl's place in life and how to find it. Champaign-Urbana, Ill., McDonnell & Co., 1942. 214 p., illus.

This occupational textbook for junior and senior high school girls supplies information on teaching, library work, museum work, medicine, law, social work, personnel work, religious work, art, design, photography, nursing, medical laboratory work, dental hygiene, interior decoration, home economics, homemaking, entertaining, music, dramatics, selling, demonstrating, advertising, publicity work, journalism, management of a shop, beauty culture, hotel work, restaurant work, catering, office work, reception work, telephone operating, textile, clothing, hosiery work, and Government work. For each field the following information is given: Nature and scope of the work; qualifications; income; opportunities for employment, for advancement, and for service. A final chapter discusses finding a job. Pupil exercises, bibliographies, and Census data are included.

83. **Faville, Katherine.** New opportunities for nurses. Occupations, 20: 327–332, February 1942.

Describes the critical shortage of nurses, wartime and peacetime needs and opportunities for service in nursing, earnings, qualifications, training courses, entrance requirements, and cost of training. Suggestions for choosing a good school of nursing, a bibliography, and plans for cooperation with counselors in recruiting conclude the article.

84. **Federal Security Agency. Social Security Board. Bureau of Employment Security.** Occupations suitable for women. Washington, U. S. Government printing office, February 1942. 103 p.

Part 1 lists the titles and code numbers of occupations which are found in selected war industries and indicates the industries in which they occur, and whether "women are now employed," "apparently suitable for women," or "partially suitable for women." Part 2 provides similar information on industrial occupations that do not usually occur in the selected war industries. Part 3 defines the titles of occupations listed in Parts 1 and 2, which do not appear in the Dictionary of Occupational Titles or which have been revised since it was issued.

85. ——— **U. S. Office of Education.** Engineering, science and management war training trains women as civil service junior engineers. Education for victory, 1: 26, Feb. 15, 1943.

There are many opportunities for women as civil service junior engineers. This article tells of the education needed and of the types of positions open.

86. ——— ——— Future WAACS, WAVES, SPARS, and the Victory Corps. Education for victory, 1: 18, Feb. 1, 1943.

This is a short discussion of the sources of information about the various women's auxiliary organizations, and of high-school subjects which may help to make a high-school girl eligible for enlistment.

87. ——— ——— High-school girls and the victory farm volunteers. Education for victory, 1: 24, May 15, 1943.

Suggestions for selection and training of high-school girls who wish to work in farm homes during the summer as a contribution to the war effort.

88. ——— ——— Medicine. By Walter J. Greenleaf. Washington, U. S. Government printing office, 1941. 24 p. (Guidance Leaflet No. 6, rev. ed.)

Besides presenting specific information on the duties, number, income, license requirements, opportunities, qualifications, and training facilities for physicians, this guidance leaflet also lists approved training facilities, their requirements for entrance and length of course, for the following occupations: Clinical laboratory technician, physiotherapist, and occupational therapist. Bibliography.

89. ——— ——— Military service. By Walter J. Greenleaf *and* Franklin R. Zeran. Washington, U. S. Government printing office, 1942. 48 p. (Vocational Division Bulletin no. 221).

Includes information on requirements, training, application, assignment, rank, pay and allowances, uniforms, and retirement for members of the Army Nurse Corps, Navy Nurse Corps, Women's Army Auxiliary Corps, and the Women's Reserve of the Naval Reserve (the WAVES).

90. ——— ——— Nurses to be and the victory corps. Education for victory, 1: 5, Jan. 15, 1943.

Training advised for high-school girls who plan to become nurses, and part-time work suggested for them.

91. ——— ——— Professional nurses are needed. Washington, U. S. Government printing office, 1942. 28 p. (Vocational Division Leaflet no. 10.)

Addressed primarily to school administrators and counselors, this pamphlet discusses the need for professional nurses and suggests in detail procedures for secondary schools to follow in supplying the needed number of qualified graduates who will enter nurse-training programs. An occupational brief, suggested forms, a list of tests for aid in selection, and a list of addresses of State boards of nurse examiners and of State nursing councils for war service are included.

92. **Federal Security Agency. U. S. Office of Education.** SPARS; Women's reserve of the U. S. Coast Guard reserve. Education for victory, 1: 27–28, Jan. 15, 1943. Reproduced in Occupation, 21: 539–541, March 1943.

An account of the education required for SPARS, method of enlistment, training, and pay.

93. ——— ——— Teacher certification in wartime. By Benjamin W. Frazier. Washington, D. C., The Office, September 1942. 14 p. mimeo. (Circular no. 213.)

Summarizes trends and practices in teacher certification as of May 1942. A discussion of emergency certificates or permits which were issued in 29 States during 1941–42 because of emergency teacher shortages includes suggested safeguards to be observed in issuing them.

94. ——— ——— Teacher shortage report. Education for victory, 1: 13–14, Jan. 1, 1943.

There is a great need for more teachers, occasioned by the large number of teachers leaving the profession for other occupations.

95. ——— ——— Teacher shortages and surpluses in 45 States, May 1942. By Benjamin W. Frazier. Washington, D. C., The Office, July 1942. 7 p. mimeo.

Reports disappearing surpluses and a rapid trend toward shortages in the teaching field in May 1942, as compared with May and November 1941. A brief report is given for each State as of May 1942. Attention is called to State and noninstitutional teacher-placement offices.

96. ——— ——— Training restaurant sales personnel. By Ruth M. Lusby. Washington, U. S. Government printing office, 1942. 274 p.

Part 6 of this teacher's manual for use in the vocational training of restaurant sales personnel discusses restaurant sales work as a vocation, and obtaining and training for a restaurant job. Duties, qualifications, line of authority, advantages, and disadvantages are discussed, and suggestions for finding out about working conditions are given.

97. ——— ——— What about teacher shortages? Education for victory, 1: 26, April 15, 1942.

Reports that an actual Office of Education count of teaching positions unfilled a month after schools had opened in the fall of 1941 revealed that 1,000 such positions were reported by about half of the city and county superintendents. Statistics are shown by teaching fields and prediction is made of a more serious situation.

98. ——— ——— Women and national defense. By Marguerite W. Zapoleon. Washington, D. C., The Office, 1941. 11 p. mimeo.

A summary of women's participation in defense work in February 1941, in: The armed forces, the Red Cross, Federal agencies, defense industries, schools and colleges, women's organizations, and in volunteer organizations. Also published in *International Altrusan*, and in condensed form in *Occupations*, 19: 509–511, April 1941, and in *America Prepares for To-morrow* by William Dow Boutwell and others, New York, Harper & Bros., 1941.

99. ——— ——— Women of the United States and the War. By Marguerite W. Zapoleon. Washington, D. C., The Office, April 1942. 14 p. mimeo. (Misc. 2977.)

A review of women's war activities in the spring of 1942 covering those in the armed forces, Red Cross, Federal Government, war industries, war training, schools and colleges, women's organizations, volunteer services, and in the home.

100. **Fenner, Phyllis R.** Our library. New York, N. Y., John Day Co., 1942. 174 p.

A librarian in an elementary school describes "what we do in our library."

101. **Fink, Arthur E.** The field of social work. New York, N. Y., Henry Holt & Co., 1942. 518 p.

For the college student who is considering social work as a possible career as well as for the student of social work and the layman, this book outlines the history of social work as a profession and then discusses in nontechnical language the following fields: Family welfare; child welfare; child guidance; visiting teacher work; court probation and parole work; medical social work; public welfare and public assistance; social group work; and community organization. For each, the background development and present trends are thoroughly discussed, as well as the number and nature of agencies and workers in the special field and the duties, qualifications, and training of professional workers. Each discussion of a particular field concludes with a case record or report illustrating the handling of a specific problem in the area covered. A comprehensive bibliography is given for each chapter.

102. **Flagg, Marion.** Music teaching changes its tune. Independent woman, 20: 206–208, July 1941.

Changes in the methods of teaching music require new kinds of preparation; new opportunities are offered. Included is a discussion of wages and chances for advancement.

103. **Fleischman, Doris E.** Keys to a public relations career. Independent woman, 20: 332–333, 340, November 1941.

Outline of a career as a public relations counselor; training, personal requirements, salary. A short bibliography is included.

104. **Flemming, Arthur Sherwood.** Relation of personnel needs of the Federal Government to the future of women's education. Journal of national association of deans of women, 4: 154–156, June 1941.

The work of the Civil Service Commission in recruiting workers for Federal agencies is discussed; opportunities for women in Federal service are outlined.

105. **Flikke, Julia O.** Nurses in action. Philadelphia, Pa., J. B. Lippincott Co., 1943. 239 p., illus.

Colonel Flikke, after 25 years of service in the Army Nurse Corps, describes the present need for Army nurses, history of the Army Nurse Corps, procedures for becoming an Army nurse, the work of Army nurses in peacetime and in the war at various nursing and battle stations. She also describes the opportunities for nurses in other branches of Government service, with the Navy, the Indian Service, and the Veterans' Administration.

106. **Folks, Helen Fornay.** Be a nurse and see the world. Independent woman, 20: 300–302, 311, October 1941.

Need for nurses and nursing as a career; civilian services and the armed services both afford opportunities.

107. Forum on fundamental considerations in the art and science of medical record keeping. Bulletin of the American College of Surgeons, 27: 52–65, January 1942.

A series of papers on the methods used in training medical record librarians and the place in the hospital of the medical record librarian.

108. **Fox, Milton S.** The use of art and artists in times of war. Cleveland, Ohio, Cleveland Museum of Art, January 1942. 23 p.

This "summary of a detailed and documented study written February 1941," outlines the military, industrial, social, and civilian uses of art work and artists in time of war. Coordination, training, and post-war needs are also discussed.

109. **French, Louis Meredeth.** Psychiatric social work. New York, N. Y., Commonwealth Fund, 1940. 344 p.

A comprehensive professional discussion of the field of psychiatric social work, its history, growth, and present status. Covers areas of the work, number and turnover of workers, types of agencies represented, salaries, opportunities, qualifications, training, and professional organizations. Psychiatric social work in mental hospitals, mental hygiene clinics, child guidance clinics, public health nursing organizations, and in educational institutions is discussed in detail; for the professional reader.

110. Full speed ahead at Kaiser Shipyards. Charm, 57: 28, 29, 72, February 1943

This is a short account in popular style of some of the types of work being done by women at a shipyard at Portland, Oreg. A list of jobs currently open and suggestions about how to apply for work and where training is available are included.

111. **Gainsbrugh, M. R.,** *and* **White, I. J.** Women as war labor reserves. The conference board economic record (National Industrial Conference Board), 4: 47–50, February 1942.

A study of the number of women in war-production industries, of women as potential sources of labor, and of trends in the employment of women.

112. **Gault, Alma E.** Nurse clerk. American journal of nursing, 42: 151, February 1942.

"Nurse clerks" are described as former nurses who return to day service in hospitals to relieve general staff nurses by performing clerical duties, errands, and limited nursing duties.

113. **Gilbert, Paul S.** Women? They're here to stay. Factory management and maintenance, 100: 96–98, 228, 230, 232, September 1942.

Women at an aircraft engineering company do good work, cause no particular problems; all are trained for their work.

114. Girl on the midnight shift; Dorothy Vogley, skilled worker in a war plant. American magazine, 135: 24–25, January 1943.

Short illustrated account of the daily routine of a woman worker in a machine shop.

115. **Girl Scouts, Inc.** Professional opportunities in girl scouting. New York, N. Y., 155 E. 44th St., 1942. 22 p.

Discusses the functions and qualifications of professional girl scout workers, their salary range, hours, advancement, and method of placement. Current mimeographed material is available from same source.

116. Girlpower at work; survey of girl service station attendants. National petroleum news, 34: 31–33, July 29, 1942.

Consumer survey of the use of girl station attendants showed satisfactory work. A number of companies in Ohio have organized systematic training courses.

117. Girls in overalls. Popular mechanics, 78: 40–43, September 1942.

Women are successfully doing work in a great variety of jobs for war production factories.

118. Girls in uniform in United States industry help make weapons of war. Life, 13: 41–44, July 6, 1942.

A short illustrated account of some women workers in war production plants.

119. **Glover, Katherine.** Women at work in wartime. New York, N. Y., Public Affairs Committee, Inc., 30 Rockefeller Plaza, 1943. 31 p., illus. (Public affairs pamphlet no. 77).

This pamphlet includes a short discussion of training available to women; among other topics are safety clothing for women; absenteeism; day care of children of working mothers; the work of WAACS, WAVES, SPARS, and WAFS; civilian workers for the armed services. The need for women with special skills and for women farm workers is stressed. A short bibliography is included.

120. **Gould, Adrian G.** Careers in public health. Chicago, Ill., Science Research Associates, 1700 Prairie Avenue, 1943. 48 p.

Discusses the number of public health nurses, the nature and conditions of their work, salaries, hours, regularity of employment, hazards, qualifications, training, future outlook, related occupations, methods of obtaining employment, and the advantages and disadvantages of public health work.

121. **Grace, Harriette M.** How homemakers make money. Journal of home economics, 34: 33–34, January 1942.

A brief description of various individual and group plans for making money, developed by homemakers using home skills and equipment.

122. **Grady, Roy I., Chittum, John W.,** *et al.* The chemist at work. Easton, Pa., Journal of chemical education, 1940. 422 p.

This symposium of articles written for vocational guidance by chemists engaged in various kinds of chemical work includes a series on opportunities for women chemists. Chapters 43–53 deal with the training and placement of women chemistry majors in women's and coeducational colleges; training and opportunities for women in chemistry; opportunities for women chemists in industry, in Government, in cosmetics research, in merchandise control, in industrial control laboratories; as chemical patent attorneys; as research bibliographers; in technical writing. Other chapters written by women describe the teaching of physiological chemistry, biochemical research, water resources laboratory work, and medical technology. Duties, requirements, and training are covered in each chapter in which the author describes his own work.

123. **Greenbie, Marjorie Barstow.** Machine-made careers. Independent woman, 22: 17, 29–30, January 1943.

Business machine operating as a career—varitype, dictaphone, stenotype, calculating machine, bookkeeping machine, card punching, tabulating machine. Opportunities for training are outlined.

124. ——— Vocations for women in Civil Service. Reprint from Independent Woman, March 1942. 4 p. New York, N. Y., National Federation of Business and Professional Women's Clubs, Inc., 1819 Broadway.

Discusses Government work for women emphasizing especially the need for stenographers and typists.

125. ——— Women work with Uncle Sam. Independent woman, 21: 74–76, 86, March 1942.

Various Government services, clerical, stenographic, welfare, and executive are discussed.

126. **Guthrie, W. G.** Why we like women in our shop. Factory management and maintenance, 101: 90–94, 202, 204, 206, February 1943.

A large manufacturing company finds women very satisfactory workers. This article contains a short account of the jobs they do, and of their reaction to shop discipline.

127. **Haller, Dorothy.** The nurse in industry. Hygeia, 20: 340–341, 370, May 1942.

The increasing use of nurses in industrial plants is considered as a permanent trend rather than an emergency. The duties, hours, compensations, and satisfactions of such work are decribed.

128. **Harding, Margaret S.** The services of professional women in book publishing. Pi lambda theta journal, 21: 133–136, May 1943.

Sketches of women who have been successful in the various university presses in the United States.

129. **Harris, Florence La Ganke.** Careers in home economics. Boston, Mass., Little, Brown & Co., 1942. 62 p., illus.

Information on duties, opportunities, and satisfactions in home economics are portrayed in a series of short visits in which the pupils of a high-school home economics teacher ask questions and are answered about work of the following types: Hospital dietitian, foods manager, fashion worker, journalist, interior decorator, home economics teacher, Government home economist, home economics in business, homemaker, and miscellaneous related jobs.

A check sheet for job qualifications completes the booklet.

130. **Hartzell, Mildred D.** *and* **Murphy, Florence E.** Cleeton interest inventory measures cosmetologists. Occupations, 20: 600–601, May 1942.

A report on the use of the Cleeton interest inventory in a study of the interests of 150 students taking training in cosmetology as compared with those of 103 young women applicants at the Central Employment Service of the Los Angeles City Schools. Results showed that those who have a real interest in cosmetology score high on the "personal service" category of the inventory.

131. **Hawes, Elizabeth.** There's a career in nursing. Woman's home companion, 70: 66–67, January 1943.

This article discusses the profession of nursing: Education and training, salary, and opportunities.

132. ——— Why is a dress? New York, N. Y., Viking Press, 1942. 184 p.

A designer writes in the first person and with enthusiasm about the "who, when, what, where, and why" of clothes and offers advice on training to the girl who wants to become a dress designer.

133. **Hays, Idell D.** WAMS, women apprentice mechanics of Transcontinental and Western Air. Flying, 32: 38–39, 168, June 1943.

Work of women apprentice mechanics is described; their training is done by the foremen.

134. **Herrick, Lucille M.** The employee counselor in the Federal service. Pi lambda theta journal, 21: 92–96, March 1943.

A discussion of the education of the Federal employee counselor, desirable experience, personal qualifications, and responsibilities.

135. **Hickey, Margaret A.** New career frontiers for the trained woman. Journal of the national association of deans of women, 4: 113–116, March 1941.

A discussion of the widening opportunities for work now open to college-trained women.

136. **Hocker, Elizabeth Van Cortlandt.** The personal experience of a contract surgeon in the United States Army. Medical woman's journal, 49: 9–10, January 1942.

A woman who served in the first World War describes the requirements, training, and duties of a "contract surgeon," as she experienced them.

137. **Hogsett, Elsie M.** Opportunities for women in transportation. International altrusan, 20: 8–10, June 1943.

The employment of women by railroads, airlines, and bus companies is increasing. Training is usually on the job.

138. The home economist in business. Women's work and education, 13: 1–4, February 1942.

Discusses changes in demand for home economists in business caused by the war.

139. **Hostetter, Anita M.** Shortage of librarians. American library association bulletin, 36: 384–386, June 1942.

Libraries are experiencing difficulties in filling the increasingly large number of vacancies in their professional and subprofessional staffs. Enrollment in library schools has decreased.

140. **Huddleson, Mary P.** Mobilizing a nation's kitchens. Independent woman, 20: 16–18, January 1941.

This is a short discussion of the training required for dietitians and nutritionists, including an account of openings for trained women in the following fields: Hospitals; home economics departments maintained by food and equipment manufacturers and producers; hotels and restaurants; school lunchrooms; college residences; public welfare agencies. Earnings and chance for advancement are mentioned. A short bibliography is included.

141. I'm a WAC. Scholastic, 42: 17, 20, Feb. 22, 1943.

Training of Women's Army Auxiliary Corps members, their work and responsibilities.

142. **Institute of Women's Professional Relations.** War demands for trained personnel. New London, Conn., Connecticut College, 1942. 260 p.

Proceedings of a conference on "war demands for trained personnel" held in Washington, March 1942, with emphasis on the opportunities for women. Scientific services, occupations related to health, home economics, business and law, transportation and communication, education and community agencies, dissemination of information, and the supply of trained workers in relation to the demand of the total war program are the headings under which the addresses and discussions are arranged.

143. **Institute of Women's Professional Relations.** Work opportunities in American fashion design, 1942. New London, Conn., The Institute, Connecticut College, 1942. 221 p. Mimeo.

Proceedings of a conference at which fashion experts discussed opportunities in such occupations as clothing, textile, dress, glove, millinery, jewelry, plastics, and other industrial design; beauty and cosmetics; interior decoration; display work.

144. Is your place in civil service? Independent woman, 22: 46, 60–62, February 1943.

A brief account of various types of civil service examinations open to women in a large number of fields.

145. **James, Charlie N.** Womanpower in airline maintenance shops. Aviation, 41: 126–127, 343–344, December 1942.

One of the air lines is using women as apprentice mechanics, replacing manpower with womanpower in maintenance shops.

146. Job facts about the women's military services. Vocational trends, 6: 12–13, May 1943.

A tabulation of the various women's military services, their requirements, pay, and types of jobs done.

147. **Johns, E.** Three million women will punch war factory time clocks. Printers ink, 199: 15–17, 61, May 8, 1942.

The war emergency is increasing opportunities for women in such fields as electrical work and machine tool work. Scientists are also needed.

148. **Kastner, Joseph.** Joan Waltermire, Air stewardess. Life, 10: 102–112, April 28, 1941.

A description of the training and work of an airline stewardess.

149. **Keliher, Alice Virginia,** *ed.* Picture fact books. New York, N. Y. Harper & Bros.

Household workers. 1941. 55 p. illus.
Library workers. 1940. 55 p. illus.
Retail sales workers. 1941. 55 p. illus.

In conversational style, the duties, qualifications, wages, and hours of workers in the various fields are discussed. Pictures accompany the text.

150. **Kimball, Alice Mary.** Careers on the labor front. Independent woman, 21: 34–36, 62, 63, February 1942.

Labor union leadership as a career. A short bibliography is included.

151. **King, Steve.** Danger! women at work. American magazine, 134: 40–41, 117–119, September 1942.

Women at a large aircraft factory have done acceptable work. Some problems like safety clothing have been solved in a satisfactory manner.

152. **Kingsley, J. Donald.** Women in the war effort. Current history, N. S., 3: 29–32, September 1942.

An article giving a brief account of work of women in the American Women's Voluntary Service, the Red Cross, at a bomber plant, and in the WACS and the WAVES.

153. **Koestner, Ruby W.** Matrons aid production. Personnel journal, 21: 163–164, November 1942.

Description of the job as matron in a war production plant.

154. **Korson, George.** Women behind the test tubes. Hygeia, 20: 916–918, December 1942.

A short description of the work done by women dietitians in Army hospitals, by physical therapy aides, and by dental hygienists, including a statement of education required and salaries.

155. **Laboratory technicians wanted.** Hygeia, 20: 262–263, 318–319, April 1942.

The duties, training courses, and salaries of clinical laboratory technicians and X-ray technicians are described briefly. The need for these workers and for physical and occupational therapists is emphasized.

156. **Leathers, Ann L.** The services of professional women in communications. Pi lambda theta journal, 21: 140–142, May 1943.

Opportunities for women teletype operators, radio technicians, and radio monitors of foreign broadcasts, as well as work for linguists and publicists in the communications field are discussed. A short bibliography is included.

157. **Lehman, Maxwell *and* Yarmon, Morton.** Opportunities in the armed forces. New York, N. Y., Viking Press. 1942. 418 p.

In Part I, Chapter 16, on "Women in the Army" there is a description of the requirements for entrance, method of application, functions, status, and pay of the WAACS, the WAFS, Army nurses, Army hostesses, and Army librarians.

Chapter 15, "Women in the Navy" supplies similar information about the WAVES and Navy nurses.

158. **Linderer, Elinore T.** A new field of work for home economists. Journal of home economics, 34: 730–731, December 1942.

Federal processed-food inspectors, who work for the Agricultural Marketing Administration of the U. S. Department of Agriculture, are employed in laboratories and in canning plants, checking grades of canned goods and inspecting raw materials used by canners. Education and training for this work are outlined in this article.

159. **Lingenfelter, Mary Rebecca.** Wartime jobs for girls. New York, N. Y., Harcourt, Brace & Co., 1943. 226 p.

Occupations for noncollege girls are described for "girls from 13 to 20 to give them an idea of what they can do to help." A discussion of keeping the job after the war is over includes four points for girls to keep in mind. The military services for girls are described in a chapter on the WAAC, WAVES, SPARS, and the Marine Reserve Corps. A list of sources for additional information concludes the book.

160. **Liszt, Charlotte G.** Opportunities for women accountants in the Federal Civil Service. The woman C. P. A., 5: 64–66, October 1942.

A woman C. P. A. serving as cost accountant with OPA presents available statistics on women accountants in Federal Government service up to June 30, 1941, and quotes a July 1942, statement on present situation from the Accounting and Finance Unit, Examining Division, U. S. Civil Service Commission. Discusses wartime opportunity of women accountants to overcome existing prejudice. Official references are listed.

161. **Lowe, Elsa Winifred.** Recruitment of student nurses. American journal of nursing, 42: 164–165, February 1942.

Describes a high-school recruitment program arranged by the Pennsylvania State Nurses' Association.

162. **Lowenfeld, Berthold.** Teachers of the blind: their status and salaries. New York, N. Y., American Foundation for the Blind, Inc., 1941. 44 p.

Report of a questionnaire study of teachers of the blind in 44 residential schools for the blind (88 percent of the total). Statistics show distribution by sex, teaching position, marital status, age, vision (seeing or blind), residence, salaries. Comparisons wih public-school teachers are made showing level of preparation, degrees, length of teaching experience, teaching load, participation in in-service training, and salaries. Miscellaneous information on contracts, retirement, requirements for appointment, and salary schedules.

163. **Macfarlane, Alberta M.** They know their onions. Independent woman, 21: 266–268, 283, September 1942.

Possibilities for a career offered by the restaurant industry, with short biographical sketches of successful women food production and service workers.

164. **MacGibbon, (*Mrs.*) Elizabeth Gregg.** Fitting yourself for business. New York, N. Y., McGraw-Hill Book Co., Inc., 1941. 456 p.

In Part I of this text for commercial students, beginning jobs in the business field and employer requirements for them are discussed. The typist, receptionist, PBX operator stenographer, office machine operator, and file clerk are among the typical occupations for girls. How to obtain and succeed in a business job are discussed in parts II and III.

165. **Malcova, Olga.** Wanted: Girl with glamour. New York, N. Y., Duell, Sloan & Pearce, 1941. 180 p., illus.

A professional model describes wholesale, retail, and photographic modeling. Type and conditions of work, qualifications, earnings, methods of obtaining a job and of keeping physically fit are described in detail. One chapter contains brief biographical sketches of 20 successful models.

166. **Manueli, J.** Women and men's work with instruments. Instruments, 15: 12–13, January 1942.

Women are used successfully in testing metals, in electrical assembly, and in making instruments.

167. **Martz, Velorus** *and* **Smith, Henry Lester.** An introduction to education. New York, N. Y., Charles Scribner's Sons, 1941. 495 p.

Part II on the teacher and his job discusses teacher demand and supply, preparation and licensing, tenure, compensation, and opportunities. Part III concludes with a chapter on planning for a teaching career, suggesting choices of training and jobs.

168. **Matthews, Ruth,** *and* **Hannah, Betty.** This changing world for women. Ladies home journal, 59: 27–30, August 1942.

An account of work done and of living conditions of four girls working at an airplane plant in Baltimore.

169. **Maule, Frances.** Careers for the home economist. New York, N. Y., Funk & Wagnalls Co., 1943. 256 p.

Following a brief discussion of how a girl can make a choice in the home economics field, the author devotes a chapter each to various specific fields for the home economist. Duties, satisfactions, salaries, how to obtain a job, qualifications, and demands are covered. Each chapter concludes with a brief bibliography. Descriptions are enlivened by frequent references to particular home economists and their jobs. The appendix includes an outline of the duties of field home economists in the Welfare Department of New York City and in the Division of Aid and Relief of the Department of Welfare of Massachusetts, as well as an article on "Why Case Work Training for the Home Economist."

170. ——— Girl with a pay check. New York, N. Y., Harper & Bros., 1941. 273 p.

Suggestions "to all girls everywhere who are seeking to secure, hold onto, and increase a pay check."

171. ——— I want to be a secretary. Independent woman, 20: 75, 94, 95, March 1941.

A discussion of the characteristics of a good business school. A short bibliography is included.

172. ——— Selling—a job that's always open. New York, N. Y., Funk & Wagnalls Co., 1940. 314 p.

Department store, chain store, traveling, insurance, and real estate selling as well as advertising and art work are discussed. In each case opportunities for women are noted. Duties, qualifications, training, openings, earnings, promotion, and working conditions are described.

173. **McDiarmid, E. W.** *Jr.* The library survey. Chicago, Ill., American library association, 1940. 241 p.

Chapter 5 on library personnel discusses size and age of staff, classification by position, education, personal and professional qualifications, duties, hours, salary and other compensations, tenure, and turnover.

174. **McFerran, Doris.** Careers in retailing for young women. New York, N. Y., E. P. Dutton & Co., Inc., 1943. 217 p., illus.

Following a brief overview of the variety of stores and of jobs in the retail field, the nature of the work, qualifications, training, and in some cases the earnings, are described for the following occupations in retailing: Salesgirl, demonstrator, buyer, personal shopper, stylist, advertising manager, copywriter, commercial artist, display work or window trimmer, personnel work, sales promotion, comparison shopper, messenger, wrapper, stock clerk, adjustment clerk, pharmacist, chain store worker, owner, or manager (store). A bibliography, a rating sheet for salespeople, and a salescheck primer are given in supplement.

175. **McIver, Pearl.** Our nursing resources. Public health nursing, 34: 32–38, January 1942.

Report on the national inventory of nurses conducted by the Nursing Council on National Defense with the aid of the U. S. Public Health Service. Supplies information on distribution of active and inactive nurses by types of nursing positions.

176. ——— Public health nursing. Pi lambda theta journal, 20: 59–60, December 1941.

This is a discussion of the work and objectives of the public health nurse.

177. **McKellar, Janet L.; D'Issertelle, Edna;** *and* **Beppler, Katherine M.** Opportunities for college women with girls' organizations. Occupations, 21: 438–444, February 1943.

Opportunities for college graduates as executives and assistants with the Camp Fire Girls, the Girl Scouts, and the Girl Reserves of the Y. W. C. A. are discussed. Duties, qualifications, salaries, training, conditions of work, and opportunity for service are presented.

178. **McKelvey, Thelma.** Women in war production. New York, N. Y., Oxford University Press, 1942. 32 p.

Based on material gathered from Government agencies, this pamphlet discusses the employment and training of women in war production and the efforts of Federal agencies to meet the need.

179. **McMahon, Lucile Nelson.** Women and the war of nerves. Independent woman, 21: 300–302, 315–516, October 1942.

Psychiatric social work, psychiatric nursing, psychiatry, and psychology as fields for women are discussed. The training needed, probable income, and increasing need are outlined.

180. Medical jobs for women. Vocational trends, 5: 14–15, September 1942.

Opportunities for women as nurses, doctors, dentists, dental hygienists, laboratory technicians, and pharmacists are briefly outlined.

181. **Meyer, Dickey.** (G. L. M. Chapelle) Needed—women in aviation. New York, N. Y., Robert M. McBride and Co., 1942. 219 p., illus.

Well-illustrated information addressed directly to the reader on wartime opportunities in aviation for women. Piloting, engineering and drafting, radio operating, meteorology, clerical work, passenger relations, public relations, aircraft manufacturing, dietetics, and hostess work are discussed—duties, earnings, training, qualifications, and method of obtaining employment being outlined in most cases.

182. ——— Needed—women in Government service. New York, N. Y., Robert M. McBride & Co., 1942. 220 p., illus.

Description of opportunities for girls in Government service as typists, stenographers, telephone operators, file clerks, production workers, technical workers, teachers, personnel workers, home economists, nurses, translators, public relations workers; civil service procedures are briefly described.

183. **Meyer, Elizabeth.** Ma's making bombers! Reader's digest, 41: 49–53, November 1942.

An account of the airplane work women are doing in different parts of the country and their reactions to their work.

184. **Mills, Alden B.** Physical therapy technicians. Modern hospital, 58: 59, January 1942.

Average monthly salaries of physical therapy technicians, by size of hospital and geographical area, as reported in a salary survey covering 1,244 hospitals, 297 of which supplied salary data on technicians.

185. **Minaker, F. C.** New jobs for women. American business, 12: 22–24, April 1942.

Fifty percent of all aircraft employees will be women. They excel in work requiring care and alertness. War production courses on a college level are available to women.

186. Minimum qualifications of nutritionists in health agencies. American journal of public health, 31: 494–497, May 1941. Reprinted in Journal of home economics, 34: 27–30, January 1942.

An outline of the qualifications of a nutritionist, including education and experience.

187. **Murphy, Mary E.** "Figuring out" a career. Independent woman, 19: 294–296, 311, September 1940.

The field of accounting is described, and educational and training requirements, earnings, and opportunities for professional advancement are outlined.

188. **Murray, G.** Advertising women cogitate on their post-war status. Printers ink, 198: 43, March 6, 1942.

The war emergency is increasing opportunities for women in advertising.

189. Must you take a war job? Charm, 57: 24, 25, 70, February 1943.

This is a short general discussion in popular style of essential and of nonessential jobs, and of training opportunities available for women who wish to become war production workers.

190. **Nall, T. Otto,** *and* **Davis, Bert H.** Jobs for today's youth. New York, N. Y., Association Press, 347 Madison Avenue, 1941. 168 p.

An overview of occupations with brief illustrations from life, including examples of women engaged in clothing manufacturing, nursing, photography, Civil Service stenographic work, art teaching, art museum work, singing, religious work, library work, and advertising.

191. **National Association of Housing Officials.** Opportunities for training and employment in housing. Chicago, Ill., The Association, April 25, 1941. 2 p. (rev.)

Discusses housing as a new field, sources of information on requirements for housing personnel, preparation, and training for housing positions including volunteer work.

192. **National Association of Life Underwriters. Committee of Women Underwriters.** Life underwriting a career for women. Indianapolis, Ind., The Association, 1942. 144 p.

Full of examples taken from the experiences of the women underwriters who wrote it, this book describes the problems and opportunities of life insurance work as a career for women. Qualifications, duties, income, training, and working conditions are covered.

193. **National Association of Manufacturers.** American women at war. New York, N. Y., The Association, 1942. 28 p., illus.

A report of a tour made by newspaper women to war industries, which includes observations on training, special aptitudes, and achievements of women war production workers.

194. **National Education Association.** Future teachers of America. Washington, D. C., The Associations, 1942. 148 p.

Describes the purpose and activities of the Future Teachers of America organizations in colleges and high schools. Includes a reprint of George Herbert Palmer's "The Ideal Teacher"; a code of ethics for teachers; and a discussion of agencies interested in the selection, preparation, and placement of teachers.

195. ——— **Research Division.** The nation's schools after a year of war. Washington, D. C., The Association, April 1943. 55 p. (Research Bulletin Vol. XXI no. 2.)

Report of a statistical study which compares data for December 1942 and December 1941 on teaching positions (number and type) and on teacher morale and community relationships.

196. **National Education Association. Research Division.** Salaries of city school employees, 1940–1941. Washington, D. C., The Association, March 1941. p. 67–95. (Research Bulletin, vol. XIX, no. 2.)

The biennial summary of statistics on salaries paid city school employees for the school year 1940–1941, as reported by 1,949 city school systems representing 54 percent of the total number. Also shows trends in salaries over a decade, by size of city, type of position, and type of school. The status of salary scheduling is discussed, and references are included.

197. **National Institutional Teacher Placement Association.** Current practices in institutional teacher placement. Athens, Ga., The Association, 1941. 186 p.

Contains contributions of 35 members of the National Institutional Teacher Placement Association on the principles and practices of teacher placement by institutions. Registration, guidance, placement, follow-up, research, and administrative functions are discussed.

198. **National Nursing Council for War Service, Inc.** War work with a future. Nursing. New York, N. Y., The Council, 1943. Folder, illus.

Answers 18 questions girls interested in becoming nurses are likely to ask. Covers need, qualifications, training, scholarships, earnings, trends, satisfactions, opportunities for employment, and service.

199. **National Organization for Public Health Nursing.** How to enter the field of public health nursing. New York, N. Y., The Organization, 1940. 11 p.

Answers typical questions on public health nursing: Kinds of positions, methods of entering the field and of securing positions, qualifications, preparation, salaries, and hours. The requirements for admission to training centers and possibilities of scholarships, loans, and part-time work during training are discussed.

200. **National Restaurant Association.** Opportunities for young people in the restaurant industry. Chicago, Ill., The Association, 1942. 2 p. mimeo.

Briefly describes size and importance of restaurant industry and its increasing importance in time of war. The availability of restaurant jobs throughout the country, chance for advancement, steadiness of employment, hours, training opportunities, and college courses which train for management positions are also described.

201. **Nealey, J. B.** Training women for war work. Iron age, 150: 50–51, Aug. 6, 1942.

Women are acceptable workers on machine tools and are easily taught the required operations.

202. **Neely, Ann Elizabeth.** Professional opportunities in USO. Occupations, 21: 129–132, October 1942.

Describes war needs for USO services, the types of professional positions involved, the qualifications required, salaries, advantages, and disadvantages. The personnel departments of the member agencies as well as of the United Service Organizations, Inc., are listed.

203. **Nelson, Josephine.** Calling all nurses. Independent woman, 22: 138–140, 159, May 1943.

This article emphasizes the need for nurses for both civilian service and the armed services, discusses the "student war nursing service" and the post-war opportunities for nurses.

204. ——— Farming for defense. Independent woman, 20: 168–170, 189, June 1941.

Short discussion of changes in farm crops occasioned by the war, and of opportunities for gardeners and women farmers.

205. **New Jersey College for Women.** Vocational information digest. War demands for college women. New Brunswick, N. J., October 1942. 51 p.

Summaries of talks given at an annual vocational information conference for college women on: College vs. a war job now; employment of women in industry from the viewpoint of an employer and an employee; opportunities for college women in banking, insurance. physiotherapy, department stores, chemistry, teaching, medicine, nursing, Government service, physical education, Girl Scout work, U. S. O. leadership, mathematics, physics, engineering, psychology, medical social work, psychiatric social work, travelers aid. For each field, duties, qualifications, preparation, hours, earnings, advancement, demand, trends, and methods of entering the occupation are discussed.

206. Nursing and national defense. American journal of nursing.

Monthly notes on recruitment, training programs, enrollments, methods of meeting needs, etc.

207. Nursing Information Bureau of the American Nurses Association. Nursing, a profession for college women. New York, N. Y., The Bureau, 1943. 16 p.

Describes present and future opportunities for college women in nursing, qualifications for nursing, preparation, scholarships, and Federal aid. An outline of the opportunities in nursing in Federal and non-Federal services is given with typical earnings for various types of positions.

208. ——— Nursing and how to prepare for it. New York, N. Y., The Bureau, 1943. 23 p.

Discusses the military and civilian fields of nursing, the qualifications and preparation required for nursing work, the types of nursing schools and their entrance requirements, and gives advice on how to choose a nursing school.

209. ——— Nursing books, pamphlets, magazine articles, films. New York, N. Y., The Bureau, December 1942. Folder.

A list of annotated books, pamphlets, magazine articles, motion picture films, and film strips, classified under general or vocational. References recommended for college students are starred.

210. ——— Professional nursing and auxiliary services. New York, N. Y., the Bureau, 1942. 23 p.

Prepared for college students, this pamphlet discusses the opportunities in professional nursing, the requirements, types of schools, and information on the tuition fees and scholarships. Information on related volunteer work is also given. A brief bibliography, a list of sources of further information, and a list of schools of nursing offering programs leading to diplomas and degrees are included.

211. ——— *Cooperating with* the National League of Nursing Education *and* the National Organization for Public Health Nursing. Facts about nursing, 1942. New York, N. Y., The Bureau, 1942. 41 p.

Presents recent statistics on professional nursing and other statistics which affect the number, distribution, and need for nurses in the United States. Separate statistics when available are given for private duty, for hospital, for institutional, and for public health nursing. Besides population and vital statistics for the U. S., there are statistics on: The supply and distribution of nurses (according to U. S. Census and a 1941 national inventory, First Reserve of the American Red Cross Nursing Service, Federal Government Nursing Service); the estimated need for nurses; military nursing; school of nursing (number meeting minimum requirements set by State laws; size, tuition, number receiving Federal funds); number of student nurses; hospitals; nurses' professional registries; incomes of nurses, 1942; auxiliary workers (paid and volunteer). A bibliography is included.

212. Nuttall, L. John. Teacher. New York, N. Y., Macmillan Co., 1941. 163 p.

Typical professional problems encountered in a lifetime of teaching in various situations are described, as well as the personal problems of home life, freedom, rewards, and security.

213. Occupational Index, Inc. Occupational abstracts. New York, N. Y., Occupational Index, Inc., New York University, 1940–1941. 5 pages each.

The occupation of the industrial chemist.
The occupation of the interior decorator.
The occupation of the milliner.
The occupation of the office machine operator.
Occupations in music.
The occupation of the window display worker.

Each abstract covers qualifications, duties, preparation, entrance, advancement, compensation, number and distribution of workers by sex, advantages and disadvantages, trends, sources of further information, and a selected bibliography.

214. **Office of Defense Transportation. Division of Transport Personnel.** Summary report—conference on womanpower in transportation, Washington, March 18–19, 1943. Washington, D. C., The Office, 1943. 26 p. mimeo.

Report of the discussion of the use of women in transportation by representatives of the transportation industries and of Government agencies. The fields of trucking, local transit, railroad, and aviation were covered; recruiting, selecting and training of women were discussed, and legislation affecting women in transportation for various States was outlined.

215. **Office of War Information. Magazine Section.** War jobs for women. Washington. U. S. Government printing office, 1942. 48 p.

Information is given about opportunities as nurses, WAVES, WAACS, WAFS, as civilian workers for the Navy and the Army, as war production workers in private industry, as agricultural workers, as clerical workers, as physicians, pharmacists, and as medical technicians. Training offered, rates of pay, and special problems are discussed.

216. **O'Malley, Patricia.** Women with wings. Scholastic, 42: 23–24, April 19, 1943.

Opportunities for women in many types of aviation work are described.

217. **Oppenheim, Beatrice.** Anchors aweigh! today 23,000 women work in shipyards. Independent woman, 22: 70–71, 90–91, March 1943.

Women work at various tasks in shipyards, ranging from naval architects to plant policemen.

218. ——— Tune in on radio jobs. Independent woman, 22: 104–106, 125, April 1943.

Opportunities for women in radio are described; article contains a brief discussion of some of the opportunities for instruction.

219. Our girls in uniform. Ladies home journal, 50: 63–69, 72–73, January 1943.

Accounts of the training and work of WAVES, WAACS, and Navy nurses.

220. Our land army is different. Saturday evening post, 215: 25, July 25, 1942.

Farmers are using more farm women and some city women and girls as helpers.

221. **Owens, Marion E.** Women personnel executives. Personnel journal, 20: 298–302, March 1942.

The report of a study of the duties, training, and education of women personnel executives in industry.

222. **Parry, Albert,** *ed.* What women can do to win the war. Chicago, Ill., Consolidated Book Publishers, Inc. undated. 64 p., illus.

This description of various fields of work for women contains information about where to apply for war production jobs, and where training can be obtained.

223. **Peckham, (*Mrs.*) Betty.** Sky hostess. New York, N. Y., Thomas Nelson & Sons, 1941. 84 p., illus.

Well-illustrated book describing in interesting detail the history, duties, qualifications, and training of air stewardesses. The background and atmosphere of the work, as well as hours, income, turn-over, numbers employed, and methods of obtaining employment, are also given.

224. Penn-Greyhound trains women for information service. Bus transportation, 21: 222–223, May 1942.

Training of girls for positions as telephone information clerks at a bus terminal in New York has been successful.

225. **Perkins, Frances.** Women's opportunity in industry. Journal of national association of deans of women, 4: 107–108, March 1941.

A short discussion of the types of war production and of essential civilian jobs into which women will go and of desirable working standards.

226. **Perrett, George St. J.** *and* **Holland, Dorothy F.** The Nation's health resources. Survey graphic, 31: 139–141, 165–167, March 1942.

Information on the medical personnel (physicians, dentists, nurses, and other technical personnel) now actively engaged and on the increased needs of the armed services and civilian population during the war. Nursing needs discussed at some length.

227. **Peterson, Florence.** Careers in labor relations. Chicago, Ill., Science Research Associates, 1943. 48 p.

Opportunities for women in labor relations are discussed briefly in chapter VIII.

228. Physicians for the Government service. Science, 95: 347, April 3, 1942.

Quotes Colonel Seeley of the Army Medical Corps on need of military services for physicians. The 8,000 women doctors in active practice and male doctors over 45 or unfit for service under that age are sources of replacement of physicians drafted into service.

229. **Pidgeon, Mary Elizabeth.** Women's work and the war. Chicago, Ill., Science Research Associates, 1943. 48 p.

As background, presents the need for women war workers, the national policy regarding their use, especially suitable processes, and a look to the future. Following chapters briefly discuss women in war manufacturing, transportation, agriculture, lumbering and mining, clerical work, professional service, Federal Civil Service, and in military service. Need, type of work done, training, and qualifications are usually given, and a special chapter is devoted to working conditions in war manufacturing plants.

230. **Planck, Charles E.** Women with wings. New York, N. Y., Harper & Brothers, 1942. 333 p., illus.

This story of women in aviation is full of names and events, past and current. Discusses women as pilots, aviation instructors, air stewardesses, aircraft factory workers, aeronautical engineers, meteorologists, and writers on aviation.

231. **Platt, Rutherford H.,** *ed.* The book of opportunities. New York, N. Y., G. P. Putnam's Sons, 1942. 506 p. (3d ed. rev.)

A new introduction and a supplement covering aircraft production, the liquor industry and war jobs distinguish this third edition of the author's "dictionary of jobs" from the second. As in former editions, the letter W preceding the name of the occupation indicates whether or not women are usually employed. A few lines of information on duties are given for each occupation and occasional information on working conditions, qualifications, and wages.

232. **Plunkett, Olive M.** The WAVES. Scholastic, 42: 30, April 1, 1943.

The work of the WAVES; the educational and physical requirements and training.

233. **Porter, Helen Louise.** Negro women's opportunities in dietetics. Journal of Negro education, 11: 14–20, Winter 1943.

Report of a study of opportunities open to Negro women to become dietitians, in hospitals, in commercial organizations, in high schools, and in colleges and universities.

234. **Porter, Sylvia F.** Careering through the war. Mademoiselle, 14: 100–101, 184–189, April 1942.

A report giving examples of the increasing employment and training opportunities for women in various fields mainly in business and technical work.

235. **Powers, John Robert.** The Powers girls. New York, N. Y., E. P. Dutton & Co., 1941. 215 p., illus.

The proprietor of an agency which for 20 years has supplied fashion models and models for advertisers, artists, and photographers illustrates from his own experience his description of: The qualifications for modeling; how models are trained; qualities which make them successful; the pay, hours, irregularity, and other features of modeling work. He also offers advice to those who wish to become models as well as to women generally who want to improve their appearance.

236. **Powers, William.** Woman question. Banking, 34: 32, April 1942.

Women in considerable numbers remained in banking after the last war and many women are being trained now for work in banks.

237. **Price, Matlack.** Hail to the girl technician! American girl, 25: 11–12, 46, September 1942.

A description of the job of mechanical drafting, with an outline of the aptitudes required and the training needed.

238. Psychologists in Army. Science newsletter, 41: 196, March 28, 1942.

Women psychologists are needed by the armed forces for various services like mental testing, planning for the reeducation of the wounded, etc.

239. Public health nurses. Vocational trends, 6: 14–15, March 1943.

Training required for public health nurses, wages, and types of work done.

240. Radio jobs for women. Science newsletter, 42: 315, Nov. 14, 1942.

A summary of Government positions open to women interested in radio operation or radio mechanics.

241. Railroad teaches women ticket sellers' technique. Railway age, 113: 465, Sept. 19, 1942.

A short intensive course is used to train women in the technique of ticket selling for railroads.

242. Recommended qualifications for public health nursing personnel, 1940–1945. Public health nursing, 34: 24–28. January 1942.

Outlines duties, preparation (general basic, postgraduate), and experience recommended by the Education Committee of the National Organization for Public Health Nursing for staff nurses and for supervisors and executives.

243. **Reeves, R.** Demand growing for women in aircraft industry. Civil aeronautics journal, 3: 102–112, April 15, 1942.

Women prove successful workers in airplane manufacturing plants in California.

244. **Revelli, William D.** Women can teach instrumental music! Etude, 61: 311, 345, May 1943.

A field is now opening to women as teachers of instrumental music to bands and orchestras in high schools.

245. **Robertson, Marian.** One in a thousand; the way of life in the road to Hollywood. Evanston, Ill. Row, Peterson & Co., 1941. 64 p., illus. (Way of life series edited by Eric Bender.)

A motion picture talent scout provides a picture of Hollywood and tells the story of a girl who step by step became the one in a thousand who passed the test.

246. **Rose, Virginia Dean.** Trends in home economics in public service. Women's work and education, 12: 1–7, December 1941.

Opportunities in teaching, in the Department of Agriculture, in the defense program, in other Government agencies and in semi-public agencies are discussed. A list of Civil Service examinations in home economics for the past 3 years is included.

247. **Rossell, Beatrice Sawyer.** Public libraries in the life of the nation. Chicago, Ill., American Library Association, 1943. 105 p., illus.

For young people of college age, opportunities in library work in urban, rural, school, and special libraries and in executive library work are described. Types of positions, functions, qualifications, salaries, future outlook, and opportunities for service are described in relation to libraries of different types. A bibliography, a directory of accredited library schools, a description of other training facilities, and information on the training facilities, on certification, and on library organization, and periodicals complete the book.

248. **Savord, Ruth.** Special librarianship as a career. New London, Conn., Institute of Women's Professional Relations, 1942. 15 p.

Describes distinguishing features of the special library; the work, qualifications, education, training centers, and earnings of the special librarian; the channels of entrance, the advantages and disadvantages of the work, the work of the professional organization in the field. A bibliography is included.

249. **Scharf, Patricia Lee.** Opportunities for counselors in summer camps. Occupations, 20: 407–412, March 1942.

Changes in the philosophy of camp counseling and expended opportunities for less experienced younger candidates for camp jobs are noted in this article which discusses the nature of summer camps, the duties and requisites of all camp jobs, and the qualifications and salaries of counselors.

250. **Schneider, Florence Hemley.** Defense and the woman worker. Journal of educational sociology, 15: 260–271, January 1942.

Women are acceptable as workers in many jobs hitherto closed to them, as well as in the customary occupations. Standards already achieved should not be lost during the emergency.

251. **Schroeder, Joseph J.** A job in banking. Chicago, Ill., Science Research Associates, 1941. 48 p., illus.

Includes brief references to the relative opportunity of women and men for employment and promotion in banks.

252. **Schulz, Cecilia L.** Your career in nursing. New York, N. Y., McGraw-Hill Book Co., 1941. 205 p., illus.

A nurse describes the profession of nursing, duties, requirements, training, income, opportunities, and trends; offers suggestions to girls who want to become nurses; and answers typical questions they ask. Examples of nurses at work are given throughout.

253. **Scott, Louise Hollister** *and* **Belcher, Elizabeth Corson.** How to get a secretarial job. New York, N. Y., Harper & Brothers, 1942. 104 p.

Instructions on job-hunting written by a junior college business teacher and a YWCA associate director of vocational guidance. There is a special chapter on working for the Government.

254. **Seder, Florence M.** More light on wartime nursing. Occupations, 21: 643–645, May 1943.

The secretary of the Committee on Recruitment of Student Nurses of the National Nursing Council for War Service brings up to date the information on nurses originally presented in February 1942 in an article by Katharine Faville. Presents statistics showing current and future need; discusses available subsidies and proposed plan for a student nurse reserve; makes suggestions regarding possible obstacles that a girl may encounter in becoming a nurse; discusses future outlook; and refers counselors to sources of further information.

255. **Sellers, Marie.** Prospects for the 1942 graduate in business home economics. Journal of home economics, 34: 362–364, June 1942.

Opportunities for the home economics graduate in the field of business include work in food companies, home services, journalism, quantity food services, advertising, radio, and research.

256. **Sharpe, Helen.** Women in aviation. Practical home economics, 20: 182, May 1942.

A brief description of various jobs in the aviation industry.

257. **She designs tires for bombers.** International altrusan, 20: 11, June 1943.

A short account of the life and work of Chloe De Long who is employed to design tires for a rubber company.

258. **Shea, Nancy.** The WAACS. New York, N. Y., Harper & Brothers, 1943. 243 p., illus.

Describes the need for members of the WAAC, how they are organized, the type of work they do, their pay, and training.

259. Shipbuilding jobs for women. Vocational trends, 6: 10–11, May 1943.

A short description of welding with an account of other work done by women in shipyards.

260. **Should I go to college?** American journal of nursing, 42: 45–50, January 1942.

The advantages of a college degree to a nurse are presented in the form of typical cases of a staff nurse, a head nurse, a superintendent of nurses, a hospital superintendent, and a private duty nurse. An extensive bibliography is included.

261. **Shuler, Marjorie, Knight, Ruth Adams,** *and* **Fuller, Muriel.** Lady editor. Careers for women in publishing. New York, N. Y., E. P. Dutton & Co., Inc., 1941. 288 p.

After a first-chapter warning about the disadvantages of journalism the authors quote from and use successful women as examples in presenting information on the following occupations: Reporter, columnist, special writer, women's page and society editor, small-town reporter, proprietor of a news bureau, foreign correspondent, magazine writer (nine types of magazines), secretary to an editor, editorial assistant, book publisher, wholesale salesperson (books), book advertising and promotion, editor (general, children's books, textbooks), and literary agent. Special chapters are devoted to unusual careers of women in journalism and to suggestions on how to get a publishing job.

262. **Shultz, Gladys.** How to be a fashion designer. New York, N. Y., Robert M. McBride & Co., 1941. 141 p., illus.

A fashion writer and designer describes all phases of fashion designing and illustrating and offers suggestions to those interested in training for such work. The final chapter of this well-illustrated book is devoted to suggestions for obtaining the first job.

263. **Silverman, Julia E.** Power machine sewing. New York, N. Y., Richard R. Smith, 120 E. 39th Street, 1942. 220 p., illus.

Part 1 of this textbook on power machine sewing describes the occupations in a dressmaking plant, and discusses power machine operating as an occupation. Historical background, labor conditions and labor organizations, nature of the work, qualifications, education, training, hours, wages, and working conditions are described in detail.

264. **Sinclair, Bernice J.** My preview of Army nursing. American journal of nursing, 42: 17–18, January 1942.

An instructor in nursing describes her observations of Army nursing during a week at a Station Hospital.

265. **Sioussat, Helen.** Mikes don't bite. New York, N. Y., L. B. Fischer Publishing Corp., 1943. 303 p.

Chapter 12 of this first-hand account of broadcasting and broadcasters by a CBS executive, tells how to get a job in radio, describing qualifications and a CBS college recruiting and training experiment in 1936. The handicaps and opportunities of women in the field are frankly discussed.

266. **Smith, Frances Aves.** They sell air space. Business education world 23: 210–214, December 1942.

Women are trained by airline companies to make reservations for passengers and to act as traffic representatives. English, public speaking, geography, and transportation are studies which are valuable to girls who wish to do this work.

267. **Spalding, Eugenia Kennedy.** Professional adjustments in nursing. Philadelphia, Pa., J. B. Lippincott Co., 1941. 560 p. (2d. ed. rev.)

Chapters 5 to 10 survey the vocational opportunities and fields of work open to professional nurses; discuss nurses in military and public service; and offer practical suggestions for: Intelligently choosing a field of work; continuing education and professional growth; and securing, filling, and leaving a position. Extensive bibliographies and valuable and specific details characterize the discussion.

268. **Spence, Elizabeth.** Vacation down on the farm. Independent woman, 22: 110–111, April 1943.

Directions as to how to help agricultural production by spending a vacation doing farm work.

269. **Spencer, Lyle M.,** *and* **Burns, Robert K.,** *with the assistance of* **Louis W. Sedran.** Youth goes to war. Chicago, Ill., Science Research Associates, 1943. 223 p., illus.

**The need for women in war work, and jobs for girls in the armed forces and in clerical, professional, and manufacturing work in wartime, are briefly discussed.**

270. **Spencer, R. R.** Opportunities for women in war medicine. War medicine, 2: 574–579, July 1942.

**Opportunities open to women physicians and to women trained to do medical research are increasing rapidly; the needs of the armed forces have decreased the number of men physicians and research workers. The postwar period should considerably enlarge opportunities for women in all fields of medicine.**

271. **Stern, Edith M.** Nurses wanted: a career boom. Survey graphic, 31: 79–81, February 1942.

**Describes need for nurses, their opportunities for service, the work of the public health nurse, industrial nurse, special nurse, institutional nurse, the teacher of nursing.**

272. **Stetson, Helen Sloan.** You, too, can find a career. Independent woman, 20: 270–271, 286–287, September 1941.

**Finding careers for older women as a career.**

273. **Stitt, Louise.** Women's wartime employment. Journal of American association of university women, 35: 136–140, April 1942.

**War has necessitated employment of many women in industries formerly closed to them, created openings for many professionally trained women, and increased the mobility of women workers.**

274. **Strong, Earl P.** Wanted—stenographers. Business education world, 22: 577–578, March 1942.

**A training consultant of the U. S. Civil Service Commission discusses the nature of Civil Service examinations for stenographers, method of application, the need for Government stenographers and for gearing teaching methods to the war situation.**

275. **Sutherland, Dorothy.** Do you want to be a nurse? New York, N. Y., Doubleday, Doran & Co., 1942. 186 p.

**A comprehensive summary of the work, qualifications, training, and working conditions of a professional nurse. The variety of fields and tasks is shown in brief sketches describing the duties of individual nurses.**

276. Take your training on the job at Boeing Aircraft Co. Charm, 57: 32, 33, 74, 75, February 1943.

**This is a short account of various jobs at an aircraft company. A list of schools where training is available, wages on different types of work, and suggestions as to where to apply for work are included.**

277. **Taylor, Frank J.** Meet the girls who keep 'em flying. Saturday evening post, 214: 30, 31, 57–58, May 30, 1942.

**An account of women airplane workers and their attitudes toward their work.**

278. **Taylor, Hazel.** WAFS fly for the Army. Scholastic, 42: 10, May 17, 1943.

**Flying experiences needed to qualify for Women's Auxiliary Ferrying Squadron.**

279. These college women chose nursing. American journal of nursing, 42: 915–919, August 1942.

**Report of a study of 212 nurses who were college graduates before entering the nursing profession. Many had been gainfully employed before becoming nurses.**

280. They see through you. Vocational trends, 5: 10–11, March 1942.

**The work of an X-ray technician. A discussion of training required and salary paid.**

281. **Torson, Gladys.** Art of being a successful business girl. New York, N. Y., New York Home Library, 1943. 27 p.

A Government secretary tells how to be successful in an office. Includes parts repeated from an earlier publication by the same author "Ask my secretary."

282. Transportation jobs for women. Vocational trends, 5: 18–19, December 1942.

Women are needed as workers on railroads, buses, and in shipbuilding.

283. **Tuttle, W. Gerard.** Women war workers at Vultee Aircraft. Personnel journal, 21: 82–95, September 1942.

Women have worked successfully at an aircraft company in the West. Special problems such as dress, health, and unfamiliarity with mechanical processes are discussed. Equal pay for equal work and upgrading programs have proved profitable policies.

284. Twenty-five thousand women will be employed by armed forces in the field of radio. Science newsletter, 41: 196, March 28, 1942.

College women and women with amateur radio licenses are needed by the armed forces.

285. **Ufford, Charles W.** Occupations in rubber. Chicago, Ill., Science Research Associates, 1942. 48 p., illus.

Includes a chart showing occupations in which female workers are customarily employed.

286. **University of Chicago Round Table.** Women, work, and the war. A radio discussion by Col. Battley, Neil Jacoby, Frieda Miller, and William Ogburn. Chicago, Ill., University of Chicago, 1942. 27 p.

The needs of industry for women workers, the places where training is available, and some special problems arising out of the employment of women are discussed.

287. **U. S. Civil Service Commission.** Civilian war service opportunities for college and university students. Washington, U. S. Government printing office, April 1943. 80 p.

Discusses need for applicants for Civil Service positions for which college students or recent graduates are eligible and supplies information on duties, pay, education, and experience required. Additional comments usually indicate in each case the opportunities for women. Fields covered are: Junior professional assistant positions, accounting, administration, agriculture, economics and statistics, engineering, home economics, industrial arts, industrial management, law, library work, medicine and related fields, physical sciences, and social work.

288. ——— The first year. A study of women's participation in Federal defense activities. By Lucille Foster McMillin. Washington, U. S. Government printing office, 1941. 39 p.

Against the background of the work of women in Federal service prior to 1940, Commissioner McMillin describes their present activities in defense work. Statistics showing civilian employment in the executive branch of the Government, by sex, are given for June 1941, by agencies.

289. ——— Opportunities and work of nurses in the Federal service. Washington, D. C., The Commission, January 1942. 32 p., mimeo.

Describes where and with what agencies Federal nurses are employed. Emphasizes the present need for nurses and methods of making application; student nurse training programs at St. Elizabeth's and at Freedman's Hospital are also discussed. Copies of announcements of current Civil Service examinations open in the nursing field and copies of application form, as well as a summary outline of the principal requirements for nurse examinations, are given in the appendix.

290. ——— The second year. A study of women's participation in the war activities of the Federal Government. By Lucille Foster McMillin. Washington, U. S. Government printing office, 1943. 71 p., illus.

This is a description of the work done by women in Federal service to help in the war effort.

291. **U. S. Civil Service Commission.** Women in the Federal service. By Lucille Foster McMillin. Washington, The Commission, 1941. 53 p. illus.

This is the third edition of a report of women in Federal services. A history of the employment of women in the service is followed by a discussion of the employment of married women, the present position of women, with some brief biographies of outstanding women Federal employees, and an outline of training offered to women who wish to become Federal employees. Bibliography.

292. **U. S. Department of Commerce.** Industry offers increasing opportunities for women. By Raymond Reeves. Domestic commerce, 29: 3–6, 13, Mar. 19, 1942.

Some opposition was encountered by the first women hired in war production plants, but they are now acceptable workers in many occupations.

293. ——— Lumberjills reap forest harvest. Domestic commerce, 31: 15, 17, July 1943.

The shortage of men for forest industries has made a place for women, who operate saws, drive service locomotives, and mark lumber for grades.

294. ——— **Civil Aeronautics Administration.** Training and employment opportunities in aviation. Washington, D. C., The Administration, April 1942. 22 p. (Rev. ed.)

Page 19 briefly describes opportunities for women in all phases of aviation.

295. **U. S. Department of Labor.** Women are replacing men in office positions. Reprint, Labor information bulletin July 1943. 3 p.

Due to the war emergency, women are filling many office positions formerly held by men.

296. ——— Women now engaged in lumbering work. Labor information bulletin, 10: 8, June 1943.

The number of women employed by lumber companies has increased greatly. They perform many of the operations about lumber mills.

297. ——— Women's work in the electrical industry. Labor information bulletin, 10: 6–7, June 1943.

A study made in New Jersey by the Women's Bureau showed a considerable increase in the number of women electrical workers—hours worked and hourly rates were studied. Some data are given about the employment of women in electrical industries in the United States as a whole.

298. ——— **Bureau of Labor Statistics.** Employment of women in shipyards, 1942. By Eleanor Kennedy. Monthly labor review, 56: 277–282, February 1943.

A study of women in shipyards: Recruitment, training, types of work done, and efficiency as compared to men.

299. ——— ——— Employment outlook in full-fashioned hosiery industry. By Ruth E. Clem. Monthly labor review, 53: 821–848, October 1941.

A discussion of trends and dislocations of the full-fashioned hosiery industry caused by technological changes, the use of nylon hose, and the order prohibiting the processing of raw silk for civilian purposes. The transferability of displaced workers to other industries is also discussed.

300. ——— ——— Salaries of hospital nurses, 1940. Monthly labor review, 52: 1276–1277, May 1941.

Gives average monthly salaries of graduate nurses in nongovernmental general hospitals in the United States in the spring of 1940, by region and size of hospital.

301. ——— ——— Wages, hours, and working conditions in union bakeries, June 1, 1939. Washington, U. S. Government printing office, 1940. 39 p. (Bulletin no. 673.)

For both men and women employees, wages, hours, and various union provisions are discussed.

302. **U. S. Civil Service Commission. Bureau of Labor Statistics.** Women domestic workers in Washington, D. C., 1940. By Grace Fox. Monthly labor review, 54: 338–359, February 1942.

This is a report of a study of women domestic workers in Washington, D. C., made in 1940. Education of domestic workers, hours of work, wages, and attitude of workers toward their occupation are discussed.

303. ——— ——— Women in Federal defense activities. Monthly labor review, 54: 640–642, March 1942.

Women are used in Federal arsenals in loading munitions, and on gas masks as testers, and as power stitchers. They work as aircraft employees, doctors, nurses, welfare workers, and technicians. They fill many diverse positions in various Federal agencies.

304. ——— ——— Women in public housekeeping occupations in California. Monthly labor review, 56: 914–921, May 1943.

Wages and hours in California for cooks, housekeepers, and maids in hotels and hospitals are discussed.

305. ——— ——— Women's work in wartime. By Frances Perkins. Monthly labor review, 56: 661–665, April 1943.

This is a general picture of women's work in essential civilian activities and in war production, with a short discussion of the training offered to women workers.

306. ——— **U. S. Employment Service.** Job descriptions prepared by the Job Analysis and Information Section, Division of Standards and Research, June 1939. Washington, U. S. Government printing office, 1939–1941.

Job descriptions for domestic service and personal service occupations. 261 p., illus.

Job descriptions for the confectionery industry. 218 p., illus.

Job descriptions for the cotton textile industry, June 1939. 323 p., illus.

Job descriptions for the garment manufacturing industry, June 1939. 237 p., illus.

Prepared for use in public employment offices and based upon job analyses made in selected research centers by trained analysts, these descriptions outline duties, qualifications, equipment, and material used, working environment, and related jobs for each occupation. Processes are described and working conditions for the industry summarized. Bibliography.

307. ——— **Women's Bureau.** Earnings and hours in Pacific Coast fish canneries. Washington, U. S. Government printing office, 1941. 30 p. (Bulletin no. 186.)

A study of wages, hours, and work of men and of women engaged in fish canneries in 1939.

308. ——— ——— Earnings in the women's and children's apparel industry in the spring of 1939. Washington, U. S. Government printing office, 1940. 91 p. (Bulletin no. 175.)

This study included 216,461 employees in 4,692 firms in various States. The number of men and of women employed in different divisions of the industry, the earnings, and hours are discussed.

309. ——— ——— The employment of and demand for women workers in the manufacture of instruments—aircraft, optical, and fire control, and surgical and dental. Washington, U. S. Government printing office, 1942. 20 p. (Bulletin no. 189–4.)

A summary list of operations on which women can be used in the field of instrument making and a description of these operations.

310. ——— ——— Employment of women in the manufacture of cannon and small arms in 1942. By Margaret Kay Anderson. Washington, U. S. Government printing office, 1943. 36 p. (Bulletin no. 192–3.)

Statistics of women and of men working in small arms and in cannon factories, together with information on pay, hours, training, and personnel practices of employers.

**311. U. S. Civil Service Commission. Women's Bureau.** Employment of women in the manufacture of small-arms ammunition. Washington, U. S. Government printing office, 1942. 11 p.

Describes women's present and possible future employment in the manufacture of ammunition less than 1 inch in diameter.

312. ——— ——— Guides for wartime use of women on farms. Washington, U. S. Government printing office, 1942. 11 p. (Special bulletin no. 8.)

A discussion of problems incident to recruiting city women and other inexperienced workers for use as farm laborers. Recruiting agencies, housing, transportation, wages, and hours for women farm workers are discussed.

313. ——— ——— The migratory labor problem in Delaware. By Arthur T. Sutherland. Washington, U. S. Government printing office, 1941. 24 p. (Bulletin no. 185.)

A study of men and of women migratory laborers in canning factories in Delaware, in September 1940. Composition of family groups, age, residence, and wages were studied.

314. ——— ——— Office work in Kansas City, 1940. Washington, U. S. Government printing office, 1942. 74 p. (Bulletin no. 188-3.)

Men and women, numbering 11,942, employed as office workers in Kansas City, Kans., and in Kansas City, Mo., were studied. Information was obtained about character of occupation, education, experience, earnings, and hours of work. The personnel policies of the employing firms were also studied.

315. ——— ——— Office work in Los Angeles, 1940. Washington, U. S. Government printing office, 1942. 64 p. (Bulletin no. 188-2.)

This study of 18,500 office workers includes men and women. Education, earnings, hours of work, age, experience, and firm personnel policies were studied.

316. ——— ——— Office work in Philadelphia, 1940. Washington, U. S. Government printing office, 1942. 102 p. (Bulletin no. 188-5.)

Comprehensive report of a study of office work in Philadelphia based on a sample of 334 offices representing almost every field of clerical activity and employing 20,477. Training facilities and a study of the demand for clerical workers were also covered in the survey. The report describes the demand for and distribution of office workers, their education, experience, turnover, earnings, hours, training, and the personnel policies governing their employment. Office work in insurance offices, banks, telephone and telegraph companies, retail stores, and in the printing and publishing industry is described in particular, and comparisons are given for particular occupations in such groups as: Stenography, accounting, office machine operating, general clerical, special clerical, and administrative.

317. ——— ——— Office work in Richmond, 1940. Washington, U. S. Government printing office, 1942. 61 p. (Bulletin no. 188-4.)

This study of 7,912 office workers in Richmond includes for men and women, data about character of office occupations, education and experiences of office workers, hours, earnings, and the personnel policies of the employing firms.

318. ——— ——— Office workers in Houston, 1940. Washington, U. S. Government printing office, 1942. 56 p. (Bulletin no. 188-1.)

This is a report of a study of 5,815 men and women office workers. Age, training, wages, and hours were studied.

319. ——— ——— Primer of problems in the millinery industry. Washington, U. S. Government printing office, 1941. 47 p. (Bulletin no. 179.)

A study of the millinery industry, including seasonal variations, number of employees, wages.

320 ——— ——— Typical operations on which women are employed in war production, June 1943. Washington, D. C., The Bureau, 1943. 2 p., mimeo.

A summary of occupations in various war production fields in which women are employed successfully.

321. **U. S. Civil Service Commission. Women's Bureau.** War demands on the Nation's womanpower. Washington, D. C., The Bureau, 1943. 9 p. mimeo.

This speech by Mary Anderson, Director of the Women's Bureau, discusses the number of women needed as war production workers, types of jobs open to them, safety clothing for women workers, and the need for provision for the care of children of working mothers.

322. ——— ——— What job is mine on the victory line? Washington, U. S. Government printing office, April 1943. 6 p. (Leaflet no. 1.)

Information to the housewife and to the woman worker in nonessential industries about similarities between her skills and the skills required by war production industries.

323. ——— ——— Women's employment in aircraft assembly plants in 1942. By Ethel Erickson. Washington, U. S. Government printing office, 1942. 23 p. (Bulletin no. 192-1.)

This is the second of two surveys of aircraft assembly plants made by the Women's Bureau to "secure information on the employment of women, their numbers, the work they were actually doing, future plans, employment policies, hiring requirements, and practices affecting women."

324. ——— ——— Women's employment in artillery ammunition plants, 1942. By Martha J. Ziegler. Washington, U. S. Government printing office, 1942. 19 p. (Bulletin no. 192-2.)

The second of two surveys made by the Women's Bureau, covering the occupations of women in this industry, training and personnel policy of employers, age and other requirements, and general working conditions.

325. **U. S. Marine Corps. Women's Reserve.** Be a Marine. Free a Marine to fight. Washington, D. C., The Corps, 1943. 19 p., illus.

This recruiting pamphlet for the U. S. Marine Corps Women's Reserve describes the need for women Marines, qualifications for officers and enlisted personnel, pay and allowances, rank, advancement, training, types of service rendered, and procedure for enlistment. Questions most often asked by recruits are answered, and the offices of Naval and Marine Corps Officer Procurement are listed so that further information may be obtained from them by those not near a Marine Corps Recruiting Station.

326. **U. S. Navy Department.** Enlist in the WAVES. Serve in the Hospital Corps. Washington, D. C., The Department, 1943. 13 p., illus.

Recruiting leaflet which describes history of the Navy Hospital Corps and the duties, qualifications, ratings, training, advancement, pay, and allowances, and method of application of WAVES who serve in the Corps.

327. ——— How to serve your country in the WAVES. Washington, D. C., The Department, 1942. 15 p.

Describes the type of work WAVES do, the type of women needed, their training, uniform, pay, qualifications, advancement, opportunity, and quarters. Similar information is given regarding commissioned officers in the WAVES. Typical questions of applicants are answered and instructions concerning how to apply are given. Also lists the addresses of Offices of Naval Officer Procurement from which application blanks may be secured.

328. ——— How to serve your country in the WAVES or SPARS. Washington, D. C., The Department, 1943. 25 p., illus.

Describes the type of work done by women enlisted as WAVES and SPARS in the Navy and Coast Guard, the type of women needed, their training, uniform, pay, qualifications, advancement opportunity, and quarters. Similar information is given regarding commissioned officers. Typical questions of applicants are answered and instructions concerning how to apply are given. Also listed are the addresses of Offices of Naval Officer Procurement and recruiting stations from which application blanks may be secured.

329. **Von Miklos, Josephine.** Girls in overalls. Parents magazine, 18: 22-23, March 1943.

Observations about machine tool work; its demands on the worker and its rewards in money and in satisfaction.

330. **Veon, Dorothy H.** Job analyses of governmental positions in secretarial work. Journal of business education, 17: 13–14, 34, September 1941.

A summary of the requirements for various types of secretarial positions and a brief description of courses in these subjects set up by George Washington University.

331. WAAC officers take over. Journal of American association of university women, 36: 38–39, Fall 1942.

The first group of WAAC officers are to be employed in recruiting, in instructing new groups of WAACS, and in teaching motor transportation.

332. WAACS. First women soldiers join army. Life 13: 74–81, Sept. 7, 1942.

An illustrated article describing the life and drill at a WAAC camp.

333. **Wakefield, R. C.** Wire and wireless communications; trained women in the communications field. Public utilities, 29: 496–497, Apr. 9, 1942.

Women will be needed as technicians in the telephone field.

334. **Walburn, Nancy.** Nursing is a woman's job. Independent woman, 19: 208–210, 212, July 1940.

Educational requirements for the professional nurse are outlined. The cost of training, the fields of nursing, and opportunities for older women are discussed briefly.

335. **Wales, Marguerite.** The public health nurse in action. New York, N. Y., MacMillan Co., 1941. 437 p.

How public health nurses in the field apply the general principles they learn from standard texts is presented with the use of actual case studies and reports from all parts of the United States. An excellent presentation of the duties and spirit of the nurse written for the mature student.

336. **War Department.** Army without uniform. The story of the War Department's civilian training program. Washington, U. S. Government printing office (undated, pages not numbered), illus.

This description of the occupations of civilians working for the Army contains short accounts of women and of men in airplane repair departments; in clothing manufacture and on motor equipment; in making weapons and ammunition; in the Signal Corps; and in the Chemical Warfare Service. Information is given about where and how to apply for appropriate Civil Service Examinations.

337. **Women's Army Auxiliary Corps.** This is our war. Join the WAAC. Washington, D. C., The Corps, 1943. Folder, illus.

This recruiting folder illustrates the kind of work done by members of the Women's Army Auxiliary Corps, and describes qualifications, length of service, pay and allowances, rank, student enrollment, training, promotion, and method of enlistment.

338. **War Manpower Commission. Bureau of Program Planning and Review.** Survey of employment prospects for women in war industries, July to December 1942. The labor market, 28–37, November-December 1942.

A summary of the occupations open to women, the employers' attitude toward women as employees, and the changes occurring in opportunities for women workers.

339. War news and draft speed women in industry. Iron age, 150: 85–86, Sept. 24, 1942.

Due to shortage of men, many companies which formerly employed no women are now successfully using them as inspectors, crane operators, and shell loaders.

340. **Weary, Bettie.** Women work and fight to win. Occupations, 21: 99–105, September 1942. (Chapter XV in the Counselors Wartime Manual.)

Reviews, for counselors, wartime jobs for women in health services, war production, clerical service, Civil Service, professional fields, and in the Women's Army Auxiliary Corps. (Supplementary information covering the WAVES, the WAFS, and other new or changing opportunities for women is given in subsequent issues of *Occupations* in which the wartime manual is kept up-to-date.)

341. **Western Personnel service.** Pasadena, Calif. The Service, 1941.
You might like chemurgy as a career. 15 p.
You might like accounting as a career. 19 p.

These pamphlets discuss functions, qualifications, preparation, income, present and future opportunities, service, methods of entering the fields of chemurgy and accounting, respectively, and opportunities for women in these fields. Both include a bibliography.

342. **Wharton, Don.** New women workers speed plane production. Reader's digest, 40: 102–105, June 1942.

Experience of a California airplane factory in using women as production workers.

343. What nurses do. American journal of nursing, 42: 504–505, May 1942.

Brief, first-person accounts of their duties written by nurses engaged in various types of nursing in various parts of the United States.

344. **Whipp, Wendell.** How we put women to work. American machinist, 86: 1213–1215. Oct. 29, 1942.

Methods of introducing women into a factory using machine tools and their success as workers are discussed.

345. Will the war bring more lady employees? Public utilities, 29: 374–375, March 12, 1942.

More and more women will be needed in such work as reading meters and repairing and adjusting equipment, stoves, and refrigerators.

346. **Willard, Helen S.** Occupational therapy as a vocation. Occupations, 21: 208–213, November 1942.

Covers the great and growing need for occupational therapists, the nature of the work, training schools approved by the American Medical Association, nature of the required training, types of jobs in occupational therapy, salaries, placement facilities, and advantages and disadvantages. Suggestions regarding desirable college preparation and a bibliography conclude the article.

347. **Williamson, Maude** *and* **Lyle, Mary Stewart.** Homemaking education in the high school. New York, N. Y., D. Appleton-Century Co., 1941. 484 p., illus. (rev. ed.)

Chapter 1 of this text for teachers of homemaking describes the personal and legal qualifications for such work. Chapter 20 discusses methods of securing a teaching position in home economics and the following chapter offers suggestions for success in teaching.

348. **Woellner, Robert Carlton** *and* **Wood, M. Aurella.** Requirements for certification of teachers and administrators for elementary, secondary schools, junior colleges. Chicago, Ill. University of Chicago Press, 1941. 93 p. (1941–1942 ed.)

Gives degree, curriculum, and semester hour, academic, and professional requirements for teachers' certificates by States. Sources of information regarding teacher applications in the possessions of the United States and requirements recommended by regional and national accrediting associations.

349. Woman on the assembly line. American mercury, 55: 759–760, December 1942.

A short account of the training and work experience of a woman airplane assembler.

350. Woman engineers needed. Science newsletter, 42: 407, Dec. 26, 1942.

More women are needed as engineers, and more girls in school should be encouraged to study mathematics and physics in preparation for engineering courses.

351. Womanpower for orchestras. Musical digest, 25: 18, 19, 42–44, spring 1943.

The conductors of some of the leading orchestras in the United States tell of their experiences with women members of their orchestras.

352. Women and machines. Time, 39: 62–64, May 11, 1942.

Work and pay of women in war production plants. The attitudes of management and of fellow workers have become more hospitable.

353. **Women Flyers of America, Inc.** Some questions and answers. New York, N. Y., Women Flyers of America, Hotel Plaza, 2 p.

Describes nature, purpose, and membership arrangements of Women Flyers of America; the cost of learning to fly; and training arrangements through the organization.

354. Women supervisors—pro and con. Independent woman, 21: 306, 318–319, October 1942.

A symposium on the steps women should take to fit themselves for supervisory responsibilities; some discussion of the need for an increasing number of women supervisors.

355. Women take over small shell plant. Iron age, 150: 100, Sept. 10, 1942.

Women, trained in local school war production classes, are successfully working in a small shell department of a firm in Oil City, Pa.

356. Women workers in aircraft plants increase steadily. Iron age, 150: 76–78, Aug. 27, 1942.

Women are acceptable as workers on the West Coast because of the lack of men. Labor unions have received them as members.

357. **Woodford, Lois W.** Opportunities for women in chemistry. Journal of chemical education, 19: 536–538, November 1942.

War work furnishes abundant opportunities to women in the field of chemistry, but their continuance in the field and their success will depend on their personal adjustments to the demands of their employer, and their sound preparation and subsequent study.

358. **Wupperman, Alice.** Women in "American men of science." Journal of chemical education, 18: 120–121, March 1941.

A study of women listed in "American Men of Science" (6th edition) shows that the most favorable types of work available to women are teaching, research work, or government service in the following fields: Chemistry, botany, zoology, bacteriology, and nutrition.

## OCCUPATIONAL BIOGRAPHIES AND FICTION

This section of the bibliography includes references to biographies and to autobiographies of women identified with particular occupations and to stories dealing with the occupational life of girls and women.

359. **Adams, Jean** *and* **Kimball, Margaret,** *in collaboration with* **Jeanette Eaton.** Heroines of the sky. Garden City, N. Y., Doubleday, Doran & Co., Inc., 1942. 295 p., illus.

Traces the history of women in aviation; presents brief biographies of 17 outstanding women pilots; and discusses new developments in the period 1935–42.

360. **Bartlett, Arthur C.** Find your own frontier. Boston, Mass., W. A. Wilde Co., 1940. 211 p.

Inspirational presentation of the work of some Americans who have found frontiers at their doorsteps. Included are sketches of Mrs. Janet Roper, Alice Rice Cook, Wanda K. Farr, Helen Hyland, and Mrs. Harold Irving Pratt.

361. **Block, Maxine,** *ed.* Current biography. Who's news and why, 1942. New York, N. Y., H. W. Wilson Co., 1942. 940 p.

Lists women leaders in the news for the period 1940–1942, and contains biographical sketches of many of them.

362. **Boylston, Helen Dore.** Sue Barton, superintendent of nurses. Boston, Mass., Little, Brown & Co., 1940. 239 p., illus.

A description of the work of the heroine of the Sue Barton Series, now a superintendent of nurses.

363. **Case, Victoria.** Good morning, I'm the county nurse. Saturday Evening Post, 213: 36-38, 79-81, 83, 84, May 17, 1941.

Experiences in the life of a county nurse, showing type of work she does.

364. **Chandler, Caroline.** Susie Stuart, M. D. New York, N. Y., Dodd Mead & Co., 1941. 232 p.

A novel which describes the heroine's medical training and interneship.

365. **Dahl, Crete.** Women's big business; department stores offer women diversified opportunities. Independent woman, 20: 106-108, 125, April 1941.

Short biographies of women who have been successful in the department store field as executives; with information about training, experience, and wages.

366. **Deming, Dorothy.** Ginger Lee, war nurse. New York, N. Y., Dodd Mead & Co., 1941. 227 p.

Army nursing in wartime is portrayed in this novel by the author of the Penny Marsh series.

367. ——— Penny Marsh finds adventure in public health nursing. New York, N. Y., Dodd, Mead and Co., 1940. 236 p.

The adventures of Penny Marsh, now Mrs. Bridgman, as a public health nurse in a rural county.

368. **Derricotte,** *Mrs.* **Elise Palmer; Turner, Geneva Calcier;** *and* **Roy, Jessie Hailstalk.** Word pictures of the great. Washington, D. C., The Associated Publishers, Inc., 1941. 280 p., illus.

Biographies of famous Negroes written for children in the intermediate grades. Among them are those of Marian Anderson, Phyllis Wheatley, Meta Fuller, May Jackson, Augusta Savage, Lucy Laney, Mary Bethune, Charlotte Hawkins, and Catherine Ferguson.

369. **Dickens, Monica.** One pair of feet. New York, N. Y., Harper & Bros., 1942. 310 p.

With a sense of humor the author describes her decision to become a professional nurse in wartime and her training and experiences in a London hospital.

370. **Eberle, Irmengarde.** Radium treasure and the Curies. New York. Thomas Y. Crowell Co., 1942. 105 p., illus.

The biographies of the scientists Pierre and Marie Curie.

371. **Gardner, Mary Sewall.** So build we. New York, N. Y., Macmillan Co., 1942. 273 p.

The director of a visiting nurse association uses fiction and conversational style to describe the work of a public health nursing organization, the people involved as workers and clients, and the spirit of service that makes it function.

372. **Gilson, Mary Barnett.** What's past is prologue. New York, N. Y., Harper & Bros., 1940. 307 p.

The autobiography of a woman pioneer in industrial relations.

373. **Hamilton, Alice.** Exploring the dangerous trades. Boston, Mass., Little Brown & Co., 1943. 433 p., illus.

The autobiography of a woman physician who became a specialist in occupational diseases.

374. **Harriman,** *Mrs.* **Florence Jaffray.** Mission to the North. Philadelphia, Pa., J. B. Lippincott Co., 1941. 331 p., illus.

The first woman to serve as United States Minister to Norway describes her 3 years of diplomatic service in that country and the Nazi invasion which forced her return to the United States.

375. **Huff, Warren,** *and* **Huff, Edna Lenore Webb,** *eds.* Famous Americans. Second series. Los Angeles, Calif., Charles Webb & Co., 1941. 641 p., illus.

Includes biographies of Grace Abbott, Martha Berry, Willa Cather, Carrie Chapman Catt, Frances Perkins, Eleanor Roosevelt, Mme. Schumann-Heink, and Ida B. Wise Smith.

376. **Lansing,** ***Mrs.*** **Elisabeth.** Cecily Drake, movie editor. New York, N. Y., Thomas Y. Crowell Co., 1940. 366 p.

A college girl prepares herself for editorial work and becomes a motion picture script editor. Recommended for older girls by Junior Literary Guild, September 1940.

377. **Logie, Iona R.** Careers in the making. (Second series) New York, N. Y., Harper & Bros., 1942. 243 p.

Prepared for high-school students, this collection of brief biographies of outstanding workers in various fields includes those of women in: Teaching, aviation, merchandising, industrial engineering, manufacturing, home economics, singing, and nursing (visiting).

378. **Lutes, Della T.** Country schoolma'am. Boston, Mass., Little, Brown & Co., 1941. 328 p.

The experiences and romance of a young country school teacher.

379. **Mallette, Gertrude.** Into the wind. New York, N. Y., Doubleday Doran & Co., 1941. 295 p.

A story which describes life in a hospital as experienced by a student nurse during her probationary period. Junior Literary Guild selection for older girls.

380. ——— Single stones. New York, N. Y., Doubleday Doran & Co., 1940. 296 p., illus.

The experiences of a college senior who helps her physician father supply information on medical research.

381. **Monahan, Florence.** Women in crime. New York, N. Y., Ives Washburn, Inc., 1941. 306 p.

For the mature reader, a penologist tells her life story and experiences in dealing with women inmates of penal institutions. Qualifications for employees in State penal institutions are discussed in chapter 20.

382. **Newbold, N .C.,** ***ed.*** Five North Carolina Negro educators. Chapel Hill, N. C., University of North Carolina Press, 1940. 142 p., illus.

Includes a biographical sketch of Annie Wealthy Holland, teacher and State home demonstration agent.

383. **O'Malley, Patricia.** War wings for Carol. New York, N. Y., Dodd, Mead & Co., 1943. 279 p.

The romance of an ex-stewardess who serves as assistant to the vice president of an airline.

384. ——— Wider wings. New York, N. Y., Greystone Press, Inc., 1942. 273 p., illus.

The heroine of "Wings for Carol" becomes chief stewardess of an airline, responsible for hiring, training, and supervising other stewardesses. May 1942 Junior Literary Guild selection for older girls.

385. ——— Wings for Carol. New York, N. Y., Greystone Press, Inc., 1941. 320 p.

The training and work of an air stewardess is the background of this story.

386. **Pollock, Elizabeth R.** Yes Ma'am! The personal papers of a WAAC private. Philadelphia, Pa., J. B. Lippincott Co., 1943. 172 p.

In letters to her family a member of the Woman's Army Auxiliary Corps describes her first few months' experiences as an auxiliary.

387. **Porter, Ella Williams.** Sandra Kendall of the 4-H. New York, N. Y., Dodd, Mead & Co., 1942. 271 p.

A novel about a young home economist which describes her work in a rural community as a home demonstration agent.

388. **Redmond, Juanita.** I served on Bataan. New York, N. Y., J. B. Lippincott Co., 1943. 167 p., illus.

A lieutenant in the Army Nurse Corps who served in the Philippines from September 1940 through the siege of Bataan describes her experiences vividly and objectively.

389. **Rice, Alice Hegan.** The inky way. New York, N. Y., D. Appleton-Century Co., 1940. 282 p., illus.

The autobiography of the author of "Mrs. Wiggs of the Cabbage Patch."

390. **Simpson, Carmen McCormack.** Foreign correspondent; adventurous, resourceful American women risking their lives in the midst of modern warfare. Independent woman, 20: 6–8, 26, January 1941.

Short biographies of women who have achieved fame as foreign correspondents for newspapers.

391. ——— They're roving newscasters. Independent woman, 20: 135–136, 159, May 1941.

Biographies of several women who broadcast news from foreign studios.

392. **Stansbury, Jean.** Bars on her shoulders. New York, N. Y., Dodd, Mead & Co., 1943. 276 p., illus.

A story about a girl's decision to become a WAAC and her period of training as an officer candidate.

393. **Stern, Edith M.,** *in collaboration with* **Meta R. Cobb.** Betty Blake, O. T. New York, N. Y., Dodd, Mead & Co., 1941. 302 p.

A novel for older girls which describes the training and work of an occupational therapist.

394. **Taves, Isabella.** Successful women and how they attained success. New York, N. Y., E. P. Dutton & Co., Inc., 1943. 320 p., illus.

Brief success stories of 31 prominent women representing 20 different professional or business occupations and their advice to those who would follow in their footsteps.

395. **Urmston, Mary.** Forty faces. New York, N. Y., Doubleday, Doran & Co., 1942. 298 p., illus.

Her practice teaching gives Jean Madison and the readers of this novel an idea of what teaching a class of 40 children really means. Junior Literary Guild Selection for older girls, February 1942.

396. **Vehanen, Kosti.** Marian Anderson. New York, N. Y., McGraw-Hill Book Co., Inc., 1941. 270 p., illus.

Biography of a well-known singer written by her accompanist.

397. **Willson, Dixie.** Hollywood starlet. New York, N. Y., Dodd, Mead & Co., 1942. 342 p., illus.

This story of a "Miss America" and of two other girls who try for a screen career in Hollywood portrays the difficulties as well as the glamour behind the scenes.

398. ——— Hostess of the skyways, and of train, ship, and hotel. New York, N. Y., Dodd, Mead & Co., 1941. 352 p.

Information on the work of the airline stewardess, the train stewardess, the ship stewardess, and the hotel hostess is presented in fiction.

399. **Withington, Alfreda.** Mine eyes have seen. A woman doctor's saga. New York, N. Y., E. P. Dutton & Co., Inc., 1941. 311 p., illus.

The autobiography of a woman doctor which describes the early struggle of women in medicine, as well as her own medical training in the 80's in the United States and in Europe and her experiences as a physician in Massachusetts, in Laborador, in France during the World War, and in the Kentucky Mountains.

400. **Worthington, May.** Sally and her homemaking. New York, N. Y., Dodd, Mead & Co., 1941. 259 p.

A story about a young home economist and her work as an assistant and special writer on home economics, and later as a homemaker.

401. **Yost, Edna.** American women of science. Philadelphia, Pa., Frederick A. Stokes Co., 1943. 232 p.

Biographies of prominent American women in the field of science, located within a few hundred miles of New York City. Represents the fields of medicine, astronomy, chemistry, industrial engineering, zoology, physics, anthropology, and botany.

## TRAINING OPPORTUNITIES

This section of the bibliography includes references to directories of schools and of colleges for women; directories of training facilities for occupations in which women are employed in considerable numbers; reports of surveys of the results of training women for war production; and information about scholarships and loan funds for women and girls.

402. **American Association of Medical Record Librarians.** Schools for medical record librarians. Approved by the American Association of Medical Record Librarians. 1942. 1 p., mimeo. (Available from corresponding secretary, Florence M. Fitzgerald. New Britain General Hospital, New Britain, Conn.)

Lists approved schools with name of instructor from whom further information may be obtained. Courses vary from 9 months to 4-year collegiate courses offered at St. Louis University and at St. Mary's Hospital, Duluth, Minn.

403. **American Association of Schools of Social Work.** Professional education for social work. Pittsburgh, Pa., The Association, 1942. 4 p. leaflet.

Points out that 10,000 men and women find employment in social service agencies and institutions and that thousands more are needed for war services in addition to the 100,000 social workers who carry on their regular activities. Mentions briefly immediate needs, the variety of social services, the social importance of the work and its satisfactions and standard professional training; and lists 42 member schools of the American Association of Schools of Social Work.

404. **American Library Association.** Accredited library schools. Chicago, Ill., The Association, 1942. 2 p.

A list of schools accredited by the American Library Association.

405. **American Occupational Therapy Association.** New York, N. Y., The Association, 1942.

List of approved schools. 1 p.
Minimum standards for training in occupational therapy. 2 p.

Standards for training and lists of schools offering training in occupational therapy which have the approval of the American Medical Association.

406. **American Vocational Association.** Vocational schools train women for wartime jobs. Journal and news bulletin of the American vocational association, inc., 17: 67–71, May 1942.

An overview of the vocational school training of women for war production jobs with digests of reports from California, Kansas, Maryland, New Jersey, New York, and Pennsylvania.

407. **Bedell, Earl.** Training women for wartime industries. Industrial arts and vocational education, 32: 1–4, January 1943.

A discussion of some of the problems incident to training women as war production workers, courses to be given, safety and health precautions to be taken.

408. **Dallas, Helen.** Training for defense: preparing a backlog of women workers. Independent woman, 20: inside cover, 122, April 1941.

A plea for training women in advance of the need, to be ready for defense work.

409. **Eells, Walter Crosby,** *ed.* American junior colleges. Washington, D. C., American Council on Education, 1940. 585 p., 1st ed.

A companion volume to Marsh's directory of American Universities and Colleges, this directory lists alphabetically 494 junior colleges recognized by national, regional, or State accrediting associations. For each college the enrollment by sex is given, as well as information on such items as: Type of school, location, accreditation, admission and graduation requirements, fees and expenses, staff, curricula, and student aid. A special listing of 80 junior colleges for women is given in appendix V. Accompanying a discussion of the present status of the junior college movement is a map of the United States showing the location of coeducational junior colleges and those exclusively for men and those exclusively for women.

410. **Elwood, Everett S.** Occupational therapy in time of war. Crippled child, 19: 144, 161–163, April 1942.

Describes three special training programs to meet increased need for occupational therapy: Refresher courses, training of volunteer assistants, and accelerated programs covering the regular curricula. Lists 4 new schools which have been established recently bringing the total number of approved schools to 10. States "the demand for well-trained therapists will continue to exceed the supply for years to come."

411. **Federal Security Agency. U. S. Office of Education.** Colleges and universities; enrollment of women encouraged by ESMDT. Education for victory, 1: 8, 9, Mar. 16, 1942.

Women are enrolling in greater numbers in engineering, science, and management defense training courses in colleges and universities. Industry recognizes the need for such trained women.

412. ——— ——— Engineering, science and management war training. Information bulletin undated. 2 p. mimeo. (ESMWT—Misc. 2007.)

Information about details of ESMWT, including directions to prospective enrollees.

413. ——— ——— Engineering, science and management war training. List of institutions where training is offered. undated. 18 p. mimeo. (ESMWT Misc. 15–K.)

A list of colleges and universities where courses in Engineering, Science and Management War Training are offered, with the names of institutional representatives of this program.

414. ——— ——— Fifty-five thousand students needed in schools of nursing. Education for victory, 1: 26, Dec. 1, 1942.

There is a shortage of nurses for civilian service as well as for the Army and the Navy. A summary of this need, of the education required, and of funds available to assist schools of nursing is included.

415. ——— ——— Home economics in degree-granting institutions. Washington, D. C., the Office, 1941. 3 p. and appendix. processed.

This study, the result of a questionnaire returned by 404 colleges and universities, gives information about enrollments, faculty, courses, degrees, and credits in home economics. Particulars about various institutions are given.

416. ——— ——— Home nursing courses in high schools. By Rall I. Grigsby. Washington, D. C., the Office, 1941. 18 p., illus.

Describes the need for instruction and three sample courses in home hygiene and home nursing, and discusses the preparation of subsidiary or nonprofessional workers in nursing.

417. ——— ——— Institutions giving professional training in physical and health education. Revised by Stella B. Sebern. Washington, D. C., the Office, 1940. 15 p. mimeo.

Colleges admitting women students are indicated in this directory which lists by States the colleges and universities offering a bachelor's degree with physical education as a major subject, those offering a bachelor's degree with health education as a major subject, teachers colleges offering a bachelor's degree with physical education as a major subject, and teachers colleges offering a bachelor's degree with health education as a major subject.

418. ——— ——— Junior engineer course for women. Education for victory, 1: 12, Jan. 1, 1943.

Women college graduates are needed to prepare for positions as junior engineers. An outline of courses open and a statement of wages are given.

419. ——— ——— Nurse-training schools in the United States. Education for victory, 1: 26, 28, May 15, 1942.

A summary of statistics compiled on 1,304 nursing schools in a survey of nurse-training schools for the year 1938–39 for the Biennial Survey of Education. Covers size of enrollment and faculty, length of training courses, educational requirements for entrance, also expenditures, and statistics on training schools for Negroes.

420. ——— ——— Nursing education. Education for victory, 1: 20, Oct. 15, 1942.

A short account of Federal funds available for the training of nurses.

421. ——— ——— Public vocational schools and the war. Education for victory, 1: 27–30, Mar. 15, 1943.

An account of the training facilities for war production work offered through public vocational schools. Included are data about women trainees.

422. ——— ——— Training women defense workers. By Louise Moore. Washington, D. C., the Office, Jan. 9, 1942. 9 p. mimeo. (Misc. 3489)

Presents a picture of the training of women for defense industries in the early part of 1942. The discussions of special training methods, of types of positions, of sources of women workers, and of the cost of installing washroom and toilet facilities are applicable to an expanded war training program.

423. ——— ——— Training women in engineering, science and management. Education for victory, 1: 20, Nov. 16, 1942.

More women are needed in technical fields. Free training is offered in various colleges and universities.

424. ——— ——— Vocational schools asked to speed up training defense workers. Education for victory, 1: 5–6, April 1, 1942.

This article tells of the increasing numbers of women in defense training programs. Details are given of enrollments of women in classes in a number of States and in a variety of courses.

425. ——— ——— Vocational training for defense workers. Education for victory, 1: 16, 17, April 15, 1942.

Increasing numbers of women have enrolled in defense training classes, particularly in the training classes for mechanic learners.

426. ——— ——— Vocational training for war production workers. Education for victory, 1: 16–17, March 1, 1943.

A statistical study of the persons trained in vocational schools for war production work; the study includes women.

427. ——— ——— Vocational training speeds building of new planes and ships. Education for victory, 1: 3–4, Feb. 1, 1943.

Some assets of women as workers are enumerated, and an account is given of their training in vocational schools.

428. ——— ——— War production training, first quarter progress report. Education for victory, 1: 11–12, Dec. 1, 1942.

Women are included in most of the training programs for war production workers.

429. ——— ——— War production training; speeding up war production program. Education for victory, 1: 21–22, Dec. 15, 1942.

An account of the trends in vocational training for war production workers, including women. The War Manpower Commission policy on recruitment, training, and employment of women workers.

430. **Greenbie, Marjorie Barstow.** New skills and how to acquire them; women in defense industry. Independent woman, 20: 175, 186, 187, June 1941.

An article telling of training opportunities open to women desiring to acquire skills useful in defense work.

431. ——— Women work for victory. Independent woman, 21: 8–10, 26, January 1942.

Training courses for women defense workers, and opportunities for women as war production workers are discussed.

432. **Halsall, Frederick.** Machine shop training for women. Industrial arts and vocational education, 32: 151, April 1943.

A brief report on selecting, testing, and training women as machine tool operators, with some suggestions as to best methods of keeping interest of trainees.

433. **Hosp, Helen M.** Report of American Association of University Women Survey on courses to train women for foreign relief and rehabilitation work in the post-war period. Washington, D. C., The American Association of University Women, spring 1943. 12 p. mimeo.

Report of a survey of colleges and universities on the membership list of the American Association of University Women to determine the extent to which courses training women for post-war foreign relief and rehabilitation work are being offered. A number of specific programs are outlined and problems are discussed. The need for a Government statement on the possible need for such workers is emphasized.

434. How is enrollment to be increased? American journal of nursing, 42: 417–419, April 1942.

Presents results of February 1942 study of 426 nursing schools. Concludes that three-fourths of the schools had reached their maximum capacity with present facilities; that lack of funds and facilities are closely related; and that a lack of qualified applicants exists.

435. **Institute of Women's Professional Relations.** Directory of colleges, universities, and professional schools offering training in occupations concerned with art in industry. New London, Conn., The Institute, 1940. 390 p.

A directory of collegiate and noncollegiate schools offering training in art, architecture, arts and crafts, ceramics, cartooning, costume designing, display work photography, occupational therapy, textile designing of all types, fashion illustration, graphics, interior decorating, lithography, marionette work, wood carving, museum work, toy making, typography. Location, size, length of course, curriculum, degrees, estimated expenses, and scholarships are covered.

436. **Keyes, T. E.** Connecticut State Trade Schools train women for industry. Industrial arts and vocational education, 31: 95–97, March 1942.

A short history of the training of women as war production workers in the State Trade Schools of Connecticut.

437. **Kleeman, Rita Halle.** The college girl goes to war. Independent woman, 22: 18–19, January 1943.

A short description of college courses offered at women's colleges to prepare students for war jobs.

438. **National Nursing Council for War Service.** Information concerning scholarships and loan funds available to students in schools of nursing. New York, N. Y., The Council, 1943. Leaflet.

Lists available scholarships and sources of further information on scholarships for student nurses.

439. **Nienburg, Bertha M.** Present and future needs for women in war industries. American vocational association journal and news bulletin, 17: 3–4, February 1942.

Discusses existing employment of women in war plants and the Women's Bureau view regarding the training of girls. ". . . the school should give her a general acquaintance with raw materials and basic processes used in related local industries or services; a knowledge of shop conditions and industrial procedure; a recognition of her personal responsibilities to her employer and to her fellow workers; an understanding of collective bargaining and the protection labor legislation affords; and the school should develop work habits and necessary dexterities that will make transfer from school to industry simple and the learning of specific skills on the job a quick process."

440. Opportunities for medical women, 1942. Medical woman's journal, 167–180, June 1942.

Lists hospitals by State and city, giving number of women interns and resident physicians now serving and openings for women as reported on questionnaires returned by 866 hospitals, 463 of which are listed as taking or willing to take women interns or residents, a decided increase over previous years.

441. **Patterson, Homer L.,** *comp. and ed.* Patterson's American educational directory, vol. 38. Chicago, American Educational Co., 1941. 1054 p.

Includes special list of colleges and preparatory schools for girls, by States, giving location and name of president or head.

442. **Sargent, Porter.** Handbook of private schools for American boys and girls. Boston, Mass., The Author, 11 Beacon St., 1942. 1151 p. 26th edition.

Directory of private schools and selected camps arranged by region. Location, enrollment, tuition, number on faculty, date of origin, and accreditation are among the items of information given for each school. A special listing of girls' schools and junior colleges is given by price range, by type, and special curricula or facilities.

443. **Slack, Gene.** Tennessee's airwomen; aviation research instructor school for women. Flying, 32: 46–47, May 1943.

The first training program of the Tennessee Bureau of Aeronautics prepared 10 women to become instructors of air cadets. A brief outline of their preparation is given.

444. Social work fellowships and scholarships. Compass, 24: 22–31, January 1943. (American Association of Social Workers, 130 E. 22d Street, New York, N. Y.)

Latest annual list of available fellowships and scholarships for training in the field of social work.

445. **Symons, T. B.** Women's Land Army. School and college placement, 2: 46–49, May 1942.

The dean and director of extension of the University of Maryland describes a special training course for women interested in serving as farm workers.

446. **War Manpower Commission. Bureau of Training. Apprentice Training Service.** Training women workers as observed in three large war production plants. By Mary Curran. Washington, D. C., The Commission, January 1943. 11 p. mimeo.

Describes trainee selection, orientation training, training on the job, foreman attitude toward women in production, women as supervisors and foremen, hours, turnover, adjustment of facilities, safety instruction, and clothing in three war production plants in the Philadelphia area which give training to women workers on the job.

447. ——— **Women's Labor Supply Service.** Training women for war work. By Thelma McKelvey. Washington, D. C., June 15, 1942. 4 p.

Describes the major types of training now being offered to equip women for work in war industries and states that on-the-job training can equip 70 percent of the new workers hired by industry.

## POLICIES AND PRACTICES IN THE GUIDANCE AND EMPLOYMENT OF WOMEN

This section of the bibliography includes references to policies and practices in the vocational guidance of women and in recruiting and employing them. Included are a number of publications which deal with special problems arising out of the necessity for assimilating large numbers of women in new industries and in industries which employed few or no women before the war.

448. **American Association for Adult Education.** Women in defense. New York, N. Y., The Association, 1941. 23 p., illus.

In popular style, this pamphlet discusses some of the problems of a wartime economy.

449. **American Management Association.** Assimilating women workers—reducing absenteeism. New York, N. Y., The Association, 1942. 35 p. (Production Series no. 141.)

Includes a report of a panel discussion on the problems of assimilating women workers in war plants in which they have not customarily been employed.

450. ——— Selecting and placing women workers. By Millicent Pond. New York, N. Y., The Association, 1942. (Production series no. 138, p. 14–20.)

Turn-over of women workers, training, hours, and rate of pay are discussed.

451. ——— Solving the manpower problem. New York, N. Y., The Association, 1942. 28 p. (Production series no. 138.)

This pamphlet contains a discussion of the best methods of selecting women workers, quick training for them, and proper placement; optimum hours of work for women are considered.

452. ——— Wartime office personnel problems. New York, The Association 1942. 43 p. (Office Management Series no. 97.)

This pamphlet on the selection, training, compensation, and turnover of clerical workers includes a discussion of employing and of upgrading women workers for men's jobs.

453. **Anderson, Roy N.** Review of clerical tests. (1929–1942.) Occupations, 21: 654–660, May 1943.

Reviews the following clerical tests published since 1929, describing them, and reporting on their validity: Minnesota Vocational Test for Clerical Workers; Detroit Clerical Aptitudes Examination; Standard Clerical Profile Test; Chicago Test of Clerical Promise; O'Rourke Clerical Aptitude Test, Junior Grade (Clerical Problems), Form A, and Junior Grade (Reasoning Test), Form A; General Clerical Test, P. C. I. Selection Form 20. Names of authors and sources are given in each case and conclusions are presented.

454. Aptitude test; women take examinations to see what kind of war work they can do. Life, 14: 43–45, Feb. 1, 1943.

An illustrated description of several aptitude tests for prospective women industrial workers.

455. **Baker, Helen.** Women in war industries. Princeton, N. J., Industrial Relations Section, Princeton University, 1942. 82 p.

This report discharges the purpose stated in its foreword "to summarize the principal personnel problems facing industry in connection with the greater employment of women and to evaluate the methods which have been used to meet these problems in the United States and Great Britain." It is intended to aid industrial executives and Government and trade union officials assisting in the change. Problems are arranged under: Selection and placement, induction and training, hours of work, wage rates and wage policies, health and safety, problems outside the plant affecting women's work in industry (transportation, housing, recreation, provision for care of children of working mothers).

456. **B'Nai B'Rith Vocational Service Bureau.** Jobs for victory. A model vocational guidance program for meetings of B'Nai B'Rith girls. Washington, D. C., Women's supreme council, the Bureau, 1942. 29 p.

Offers suggestions regarding chairmen's remarks, outside speakers, use of motion pictures and a counseling demonstration for vocational guidance meetings for groups of girls. Also supplies current information on women in war activities and a bibliography.

457. ———. Victory through womanpower. A guide to the planning of educational rallies on war work for women. Washington, D. C., the Bureau, 1943. 10 p., illus.

Quotes War Manpower Commission policy on the recruitment, training, and employment of women in war work and makes suggestions for recruiting campaigns in local communities.

458. **Federal Security Agency. Social Security Board.** Womanpower: The key to manpower. Employment security review, 9: 3–28, December 1942.

This article considers the statistics of women working and available for work, occupations suitable for women, types of training, union attitudes toward women workers, and methods of recruiting women.

459. ——— ——— **Bureau of Employment Security.** Dictionary of occupational titles. Part 4. Entry occupational classification. Prepared by the Occupational Analysis Section, U. S. Employment Service Division. Washington, U. S. Government printing office, 1941. 108 p.

Describes the system developed for the classification of applicants at public employment offices who have not had experience or specific training. Specific examples are given for many fields, such as child care and cooking, showing how background and training factors are used to arrive at an early classification.

460. ——— **U. S. Office of Education.** Coordinating the resources of women's colleges with industries employing women. Education for victory, 1: 6–7, March 15, 1943.

A report of a conference called to further the coordinating of the resources of women's colleges to make college women useful as war production employees.

461. ——— ——— Wanted—women war production workers. Washington, The Office, June 1943. 22 p. mimeo.

This guide, prepared primarily for the use of counselors of girls and women, offers information about training available, and about assistance which may be given to help girls and women in their choice of war production work.

462. **Ginzberg, Eli.** College-trained women and the war effort. Educational record, 23: 252–260, April 1942.

Women with specialized college training need better counselling and more refresher courses; in the case of undergraduates, better work should be done in encouraging girls to select fields where present shortages of trained professional workers exist.

463. **Hickey, Margaret A.** The role of women in the war effort. Occupations, 21: 203–207, November 1942.

This is a discussion of the job of the Women's Advisory Committee of the War Manpower Commission and of some problems involved in the selection, training, and employment of women in war production. Community and post-war problems are briefly discussed and suggestions offered to women's organizations as to what they can do to help.

464. **Manufacturers Association of Connecticut, Inc.** Womanpower to supplement manpower. Hartford, Conn., The Association, 1942. 32 p., illus.

This pamphlet suggests to employers methods of breaking down jobs so that women can be employed advantageously. Such matters as recruiting, training, and supervising women are discussed. Absenteeism, the provision of sanitary facilities, and the establishment of day nurseries are given brief consideration.

465. Margin now is womanpower. Fortune, 27: 98–103, 222, 224, February 1943.

A discussion of the constantly enlarging field of war production work for women, and some of the problems involved: Safety, clothing, shifts, training, care of children.

466. **National Foremen's Institute, Inc.** Supervising the woman war worker. Deep River, Conn., The Institute, 1942. 34 p.

Addressed to foremen in war plants, this pamphlet lists some of the jobs women are doing in war industries and those which they can do after training of from 2 to 6 months. It discusses the hiring and induction of women workers, policies with regard to wages, safety measures, uniforms, training, and the handling of reprimands.

467. **National Industrial Conference Board.** Women in factory work. New York, N. Y., The Board, 1942. 52 p. (Conference board reports. Studies in personnel policy no. 1.)

A report on types of work which women can do; recruitment, selection, orientation, supervision, pay, hours of work, fatigue, clothing, absenteeism, and provision of special facilities for women are discussed.

468. Output: ladies welcome. Newsweek, 20: 56, 59, 60, Nov. 30, 1942.

A short discussion of the wide use of women in war production industries, and such problems as supervision, training, wages, and safety.

469. Recommendation of the Conference of the Council of Guidance and Personnel Associations, Jan. 15–18, 1943, New York, N. Y. Occupations, 21: 46-48, April 1943.

The Council of Guidance and Personnel Associations met with representatives of various government agencies and of labor and industry to consider "to what ends and in what way the influence of counselors of youth should be directed at this time." Recommendations 8, 19, and 39, concerning girls and women exclusively, direct attention to the demands of military services into which girls will enter, of production work, of essential civilian services; they are concerned also with the necessity for selecting and training girls who will serve at centers entertaining service men.

470. Some guides in employing women. Highlights (Family Welfare Association of America), 4: 9–11, March 1943.

Women with young children need special counselling and assistance in making arrangements for the care of their families before they go into war production work.

471. **U. S. Department of Labor. Bureau of Labor Statistics.** Employment in war work of women with young children. Monthly labor review, 55: 1184–1185, December 1942.

Various plans made by Federal, State, and local organizations to care for the children of working mothers are described.

472. ——— ——— Enrollment campaigns for women workers, 1942. Monthly labor review, 56: 488–490, March 1943.

An outline of plans tried in various localities to enlist women for war production work, with suggestions as to how these plans can be most successful.

473. ——— **Women's Bureau.** Effective industrial use of women in the defense program. Washington, U. S. Government printing office, 1940. 22 p. (Special bulletin no. 1.)

This bulletin discusses the types of jobs on which women have proved most efficient and lists various facilities and safety precautions which will insure maximum production. Among these are provisions for guarding machinery, the provision of proper seats, and of lunchrooms and dressing rooms.

474. ——— ——— Recreation and housing for women war workers. A handbook on standards. By Mary V. Robinson. Washington, U. S. Government printing office, 1942. 40 p. (Bulletin no. 190.)

A discussion of standards and policies for a recreation program for women war workers, of housing, and of other welfare problems, such as transportation and the care of children of working mothers.

475. ——— ——— Report of a conference on women in war industries. Washington, The Bureau, 1943. 71 p. mimeo.

This report includes papers read and discussions on the types of jobs which women can fill, hours of work, industrial safety, and health standards, and the adjustments necessary to reduce absenteeism and increase production of women workers.

476. **War Manpower Commission.** Planning and conducting a campaign for the enrollment of women in wartime employment. Washington, The Commission, 1943. 14 p. processed.

Outline of plans for recruiting women for employment, including an analysis of difficulties, suggestions as to cooperation with existing agencies, and recruiting devices.

477. ——— Policy on recruitment, training, and employment of women workers. Washington, D. C., The Commission, 1942. 3 p. mimeo.

This statement of policy includes a short discussion on training, wages, hours of work, and use of women workers with young children.

478. ——— **Bureau of Program Requirements.** Experience in the use of part-time workers. The labor market, p. 22–31, March-April 1943.

A discussion of plans for using male and female labor on a part-time basis in different localities in the United States.

479. **War Production Board. Labor Division.** Increasing war production through employment of women. Washington, D. C., The Board, March 1942. 4 p. (Bulletin no. 7.)

Discusses special factors to consider in employing women for war production; presents brief observations on the selection, placement, and in-plant training of women.

480. Woman's place; surveys show that not only can they do the job but that they often do it better. Business week, no. 663: 20–22, May 16, 1942.

Employers of women on jobs formerly held by men find that women require less supervision than men, have fewer accidents, damage fewer tools.

481. Women, now! Business week, p. 72, 76, 78, 80, Jan. 9, 1943.

A discussion of the best way to recruit women needed as war production workers, including a brief description of some of the jobs women do in various firms.

482. Women's bosses. Modern industry, 4: 38–43, Sept. 15, 1942.

Problems of supervising women industrial employees are discussed and the following practices are suggested: The use of women in the personnel department to interview applicants, the assignment of a few older women to any large group of young girls in a plant, preparation of male supervisors and workers for introduction of women, diluting the supervisory force through use of women subforemen and gang bosses, employment of women counselors to operate between the male production supervisors and women workers.

483. Women speed war work. Science digest, 12: 39–41, August 1942.

Output of women war production workers often exceeds men's. They work best on jobs requiring patience, care, and alertness.

484. Women supervisors get more work out of women workers, Chicago meeting is told. American machinist, 86: 742–745, July 9, 1942.

Discussion of some of the problems of employing women: Women supervisors; lifting heavy weights; safety clothing.

485. Women work for victory. Safety engineering, 83: 6–8, June 1942.

Women can be trained like men to be good war production workers. There are a few physical limitations.

486. **Zeller, Dale.** War-time education for girls. Bulletin of the national association of secondary school principals, 27: 57–64, April 1943.

Discusses confused thinking on problems of girls in wartime, the effect of the war upon the adolescent and the need for work experience for girls as well as for boys. Stresses that education should not be curtailed; that opportunities for community service should be utilized; and that superior girls should not be stampeded, but prepared thoroughly for college.

487. **Zorbaugh, Grace S. M.** Vocational information conferences at Ohio State University. Occupations, 21: 376–380, January 1943.

Responsible for a number of highly successful vocational information conferences for women at Ohio State University, the author discusses some questions of interest to those who plan similar conferences.

## WOMEN'S STATUS WITH RESPECT TO WORK AND EDUCATION

This section of the bibliography includes references concerning the status of women in the labor market and the problems confronting special groups of women in their vocational adjustment. Also included are references on legislation, work standards, and health and safety which are not identified with a particular occupation or included with a discussion of other aspects of the employment of women.

488. **Abel, Theodora M.** *and* **Kindler, Elaine F.** The subnormal adolescent girl. New York, N. Y., Columbia University Press, 1942. 215 p.

A comprehensive study of the problems of the subnormal adolescent girl (with an I. Q. between 50 and 89) based on research and daily contacts over a period of years with such girls in a variety of situations. Chapter 3, which presents problems encountered at school, also discusses the duties and desirable qualifications of the teacher of subnormal adolescent girls. Chapter 4 presents their problems of vocational adjustment.

489. **Federal Security Agency. U. S. Office of Education.** Safety for the worker. By Agnes Martocci. Washington, U. S. Government printing office, 1942. 12 p.

Written for school use, this leaflet discusses the safety principles and practices every worker going into war production should know.

490. ——— ——— *and* **U. S. Department of Labor, Division of Labor Standards.** The worker, his job, and his Government. Washington, U. S. Government printing office, 1942. 63 p.

This "introduction to Federal Labor Laws" prepared for school use supplies a needed reference for vocational, occupational, and social studies classes in which young women are prepared for their role as productive workers.

491. **Gardner, Mona.** Only grandmothers need apply. Ladies home journal, 60: 24–25, 58–60, June 1943.

Many industrial plants are finding that older women prove more satisfatory than younger women as workers.

492. **Hinrichs, A. F.** Trends and planning for future economic development. Washington, D. C. U. S. Department of Labor, Bureau of Labor Statistics, 1942. 8 p. mimeo.

A significant address on the present and probable future position of women in the total picture of the Nation's labor force in wartime and the importance of the observed trends to education and to the post-war world.

493. **Lloyd-Jones, Esther,** *and* **Fedder, Ruth.** Coming of age. New York, McGraw-Hill Book Co., 1941. 280 p.

Chapter V on effective vocational activity discusses vocational adjustments peculiar to women and the vocational problems of married women.

494. **Mettert, Margaret T.** What the woman worker should wear. Occupational hazards, 3: 16–18, 20–21.

Describes suitable foot, head, hand, and eye protection and suitable uniforms for women being called into defense industries.

495. **Mitler, Frieda.** Women and their jobs. Survey graphic, 32: 182–184, 227–228, May 1943.

A discussion of women's new work experiences and the effect of these experiences and women's post-war desire for employment.

496. **Puckett, Pearl P.** The older woman in the office. Journal of business education, 16: 26, May 1941.

There is room in the office today for the older women who keep up their skills, learn new processes, and look up to date.

497. **Swan, Herbert.** Work for women. Technology review, 44: 172–174, 192, 194, February 1942.

Social conditions are partly responsible for the relatively small proportion of women in the labor force. War is expected to increase this proportion.

498. **U. S. Department of Labor. Women's Bureau.** Equal pay for women in war industries. Washington, U. S. Government printing office, 1942. 26 p. (Bulletin no. 196.)

A discussion of equal pay for equal work, with no sex discrimination. Such subjects are treated as plant changes necessitated by the use of women, absenteeism, turnover, and family responsibilities of women workers.

499. ——— ——— Hazards to women employed in war plants on abrasive-wheel jobs. Washington, U. S. Government printing office, 1942. 6 p. (Special bulletin no. 7.)

Contains a short description of grinding and polishing operations, with suggestions as to precautions which will help to prevent injury to workers.

500. ——— ——— Lifting heavy weights in defense industries. Washington, U. S. Government printing office, 1941. 11 p., illus. (Special bulletin no. 2.)

Dangers to women arising from weight lifting, and the best methods of overcoming these difficulties are discussed. A brief résumé of State laws on weight lifting by women is included.

501. ——— ——— The occurrence and prevention of occupational diseases among women. By Margaret T. Mettert. Washington, U. S. Government printing office, 1941. 46 p. (Bulletin no. 184.)

A study of reports from 9 States on occupational diseases among women, 1935–1938.

## SURVEYS

This section of the bibliography includes surveys of women workers not identified with a particular occupation or industry; surveys covering women students; and reports of the Census of 1940 which are concerned with the occupations and the employment of women.

502. **American Council on Education.** The supply of professional trained man power. Washington, D. C., The Council, April 30, 1942. (Higher Education and National Defense Bulletin No. 26.)

A statistical report of a study conducted by The Council at the request of the National Roster of Scientific and Specialized Personnel which supplies estimates of the number of professionally trained men and women who will be available from higher institutions at graduate and postgraduate levels during the year ending January 1943. Numbers are given for particular occupational groups under each of the following major fields: Management and administration, agriculture and biology, medicine and related fields, engineering and physical sciences, social sciences, arts and languages, clergy. Occupatioal areas in which the National Roster reported a shortage in January 1942, are indicated.

503. **Anderson, H. Dewey** *and* **Davidson, Percy E.** Occupational trends in the United States. Stanford University, Calif., Stanford University Press, 1940. 618 p.

This comprehensive analysis of Federal Census data from 1870–1930 and data obtained in the Work Projects Administration National Research Project discusses trends in agriculture, forestry and fishing, extraction of minerals, transportation and communication, trade, public service, professional service, domestic and personal service, clerical occupations, and in the manufacturing and mechanical industries (administrative and service group, building trades, electrical workers, lumber and furniture industries, clay, glass and stone workers, iron and steel workers, metals group, leather industries, textile and clothing industries, paper, printing, and allied industries, food industries, cigar and tobacco workers, chemical and allied industries, miscellaneous group). In each case the distribution of female workers is given and trends in the distribution of workers by sex are discussed. Trends for women in the following occupations are given specifically: Hairdresser, teacher, music teacher, labor (manufacturing), bookkeeper, presser (cleaning and dyeing industry), boardinghouse keeper, librarian, printer, telegraph operator, telephone operator, social worker, servant, and waitress.

504. **Brewington, Ann *and* Berg, Evelyn Van Emden.** The women graduates of a collegiate school of business. Chicago, Ill., University of Chicago Press, 1942. 99 p.

Report of a follow-up study based on questionnaires returned by 245 of the 462 women graduated from the School of Business of the University of Chicago between 1913 and 1941. Statistics on further education and training, first and present occupation, initial and present salaries, number of positions held, employment status and average age, marital status, income, and dependents are given as well as statistics having to do with family life, personal preferences, and opinions concerning women's place in society. For the business executives, research workers, clerical workers, teachers, and homemakers covered in the study, special summaries are given. Discrimination in business and in teaching is reported in chapter 2.

505. **Federal Security Agency. Social Security Board.** Employment of women in war production. Social security bulletin, 5: 4–15, July 1942.

A study of the composition of the female labor force and of placements of women 1940–1941. Included is a study of the training of women and a discussion of future trends in women's employment.

506. ——— ——— **Bureau of Employment Security.** Employment of women in war production. Washington, D. C., May 1942. 36 p.

Summarizes situation with regard to the employment of women in war production as of May 1942: "With 36 million unemployed workers and no widespread labor shortage as yet, it will be some time before women are employed on a large scale everywhere"; predicts employment of women on "a scale hitherto unknown" by the end of 1942.

507. ——— ——— ——— Employment of women in war production. The labor market, p. 15–17, September 1942.

This article contains reports of women in various war production establishments, showing proportion of women working on apparel, tobacco, textiles, leather and leather products, electrical machinery, rubber products, shipbuilding, iron, and steel.

508. ——— ——— ——— The labor market, August 1942. Highlights. Washington, The Bureau, 1942. 22 p.

This report contains a section on "recent developments in the employment of women," as well as summaries of the employment of women in shipbuilding, aircraft, and the machine tool industry.

509. ——— **U. S. Office of Education.** Community occupational surveys. By Marguerite Wykoff Zapoleon. Washington, U. S. Government printing office, 1942. 199 p. (Vocational division bulletin No. 223, Occupational information and guidance series No. 10)

Includes annoted references to five community surveys of women's occupations and a detailed description of a survey of the occupations of women in Toledo, Ohio, made for vocational education.

510. **Fiske, Marjorie.** Searchlighting the woman earner; five million women in the United States who earn in other than industrial, domestic, and agricultural fields. Independent woman, 21: 232–233, 253–254, August 1942.

The master file of the National Federation of Business and Professional Women's clubs, which contains 31,000 names, provides a good sample of the distribution of women in professions and business.

511. **Foster, Robert G.** ***and*** **Wilson, Pauline Park.** Women after college. New York, N. Y., Columbia University Press, 1942. 305 p.

Discusses the problems confronting women college graduates as revealed in 100 case histories made available through volunteers and through the Advisory Service of the Merrill-Palmer School, Detroit, Mich. Problems presented are classified under: Personality, social and recreational, financial, education, health, vocational, religious, housekeeping, crises, sexual adjustment, relations with associates, relations with relatives, husband-wife relationships, parents-in-law relationships, and parent-child relations. Changes in college education are recommended that have to do with counseling facilities, personnel, and curriculum. The appendix includes references to related studies and describes a community service project for college women conducted as an experiment by the Merrill-Palmer School since 1933.

512. **Laleger, Grace Elizabeth.** The vocational interests of high-school girls as inventoried by the Strong and Manson Blanks. New York, N. Y., Bureau of Publications, Teachers College, Columbia University, 1942. 102 p.

A report of an analysis and comparison of the use of The Strong Vocational Interest Blank for Women and the Manson Occupational Blank for Women with 703 girl students from 9 high schools in Brooklyn, N. Y. The writer concludes that "on the basis of all the available data regarding the Strong and Manson inventories, there exists insufficient evidence of their validity and practicability to render them of significant value in vocational counseling."

513. **Landy, Edward** ***and others.*** Occupational adjustment and the school. Bulletin of the National Association of Secondary School Principals, 24: 1–160, November 1940.

This report includes data obtained in a follow-up sample study of 914 school-leavers (of three schools in New Jersey and three in Connecticut) who had been out of school from 1½ to 5½ years and had not gone on with further full-time formal school. Data by sex are given in tables showing: Total sample; graduates and withdrawals; median I. Q.; semester completed; curriculum of last 2 years; employment status at time of study; present and last regular occupation (by occupational group); self-appraisal of occupational adjustment, and of things learned from present or last regular job, and of readiness for present job; occupational choices and time of choice; employer's sources of contact for hiring youth, standards for hiring of youth, and prospects for continued employment as stated by employer; relationship of personal characteristics, home and family backgrounds, school background and experiences, work experiences, and ways of behaving to percentage of employment.

514. More women working. Modern industry, 4: 88–89, July 15, 1942.

Percentage of women in plants making various products, with an estimate of the changes in 1943; a discussion of facilities which must be installed when women become a larger proportion of the working force.

515. **Pace, C. Robert.** They went to college. Minneapolis, Minn., University of Minnesota Press, 1941. 148 p.

Report of a questionnaire study of 951 young adults (including 478 women) who were former students at the University of Minnesota, 172 of whom were interviewed later for further information. Information by sex is given on marital status, employment status and occupational group, income, job satisfaction, college aptitude test ratings, general adjustment and morale, life goals, philosophies, home and family relationships, activities connected with occupation, socio-civic attitudes, and activities.

516. Report of a survey of the increased employment of women in American industry. Modern industry, 347 Madison Avenue, New York, N. Y., 1942. 5 p. mimeo.

74 percent of 1,000 management executives (representing a broad sampling of management among 31,500 plants making 89 percent of the manufactured goods of the Nation) reported the present or contemplated employment of women, the greatest actual increase in the use of women being in the aviation industry. More than half of those who employed women reported men and women working side by side rather than segregated. Married women were preferred to single women by 57.1 percent. "High-school education was required in 63.2 percent of the cases, but in only 21.8 percent did an employer find that college training was helpful in industry." Employer reports on sanitary facilities and work clothing are also given.

517. **U. S. Department of Commerce. Bureau of the Census.** Age of workers in each occupation in the United States: March 1940. Washington, D. C., The Bureau, Dec. 14, 1942. 14 p. (16th Census of the United States, 1940, Population series P–16, No. 6.)

A summary of statistics for the United States showing the distribution by age, sex, and occupation of those employed (except on public emergency work) as reported in the Census of 1940, and all experienced workers seeking work.

518. ——— ——— Employed workers 14 years old and over by industry groups for the United States, 1940. Washington, D. C., The Bureau, April 29, 1942. 4 p. (16th Census of the United States, 1940, Population series P–10, No. 11.)

A summary of the data on the distribution of employed workers in the United States by sex and industry group. Forty-five separate industry groups are listed in the tables grouped under the following major headings: Agriculture, forestry, and fishing; mining; construction; manufacturing; transportation, communication, and other public utilities; wholesale and retail trade; finance, insurance, and real estate; business and repair services; personal services; amusement, recreation, and related services; professional and related services; Government.

519. ——— ——— Employed workers 14 years old and over by major occupation group for the United States: 1940. Washington, D. C., The Bureau, Apr. 29, 1942. 3 p. (16th Census of the United States, 1940, Population series P–10, No. 10.)

Presents summary of data on the distribution of employed workers by major occupation group and sex. The groups are: Professional workers; semi-professional workers; farmers and farm managers; proprietors, managers, and officials, except farm; clerical, sales, and kindred workers; craftsmen, foremen, and kindred workers; operatives and kindred workers; domestic service workers; service workers, except domestic; farm laborers (wage workers) and farm foremen; farm laborers (unpaid family workers); laborers, except farm; occupation not reported.

520. ——— ——— Employment status of persons 14 years old and over in the United States: March 24–30, 1940. Washington, D. C., The Bureau, June 6, 1942. 6 p. (16th Census of the United States, 1940. Population series P–10, No. 7 Revised)

Gives final United States summary on the employment status of persons 14 years old and over by sex, as well as by color, nativity, and residence. Reports number in labor force, including those seeking work as well as those employed. Reports separately those employed on public emergency work (WPA, etc.)

521. ——— ——— Marital status of men and women in each occupation by age for the United States: March 1940. Washington, D. C., The Bureau, Feb. 15, 1943. 11 p. (16th Census of the United States, 1940, Population series P–16, No. 7)

Summarizes statistics for the United States as a whole showing the occupational distribution by sex, age, and marital status of employed workers (except on public emergency work) and all experienced workers seeking work.

522. ——— ——— Occupations of employed persons in each industry for the United States: March 1940. Washington, D. C., The Bureau, Mar. 6, 1943. 37 p. (16th Census of the United States, 1940, Series P–14, No. 11)

Based on a 5 percent sample of the 1940 Census tabulations, this report presents statistics showing for each industry the distribution of employed persons (except on public emergency work) by occupation and sex.

523. ——— ——— Occupations of persons 14 years old and over in the labor force for the United States: 1940. Washington, D. C., The Bureau, June 9, 1942. 8 p. (16th Census of the United States, 1940, Population series P–11: Summary)

Summarizes data for the United States showing the distribution by sex and occupation of employed workers (except those on public emergency work) and all experienced workers seeking work. Figures are given for 167 occupational combinations arranged by 10 major Census groups.

524. ——— ——— Population; reserve labor supply among women in the United States. Washington, D. C., The Bureau, May 11, 1942. 4 p. (16th Census of the United States 1940, Population series P-9, No. 13.)

Presents data from previous unpublished tabulations based on the 1940 Census relating to the potential labor supply of women in the country and concludes that the "chief reserve of labor supply is among women 18-44 years old." Discusses military status, the employment of women with children, the employment of married women in farming areas, and the employment of Negro married women.

525. U S. Department of Labor. Bureau of Labor Statistics. Economic position of married business and professional women. Monthly labor review, 51: 1371-1374, December 1940.

Results of a study of married and of single women workers made by the National Federation of Business and Professional Women's Clubs, Inc. Earnings, length of employment, occupations, number of dependents, were studied.

526. ——— ——— Employment of women in defense industries. Monthly labor review, 52: 1147-1151, May 1941.

This is a report of a study of defense industries in which women are employed or could be employed. Maintenance of existing labor standards is recommended. A discussion of the number of women available for employment and of facilities for training is included.

527. ——— ——— Employment of women in wartime. Monthly labor review, 55: 441-445, September 1942.

During the year ended May 1942 the total number of employed women increased more than the number of men. During this year the number of women in manufacturing as a whole did not increase. This was during the time of conversion from peacetime to wartime production.

528. ——— ——— Increase in woman factory workers in New York State in 1942. Monthly labor review, 56: 921-923, May 1943.

The employment of women in manufacturing industries in the State of New York increased decidedly during 1942, and there was a general shift of employment from less essential to war industries.

529.——— ——— Occupations and salaries in Federal employment. Monthly labor review, 52: 66-85, January 1941.

Civilian employees in Federal service in 1938 were studied. Distribution of male and of female Federal employees among the various occupational groups, age and salaries of male and of female employees are discussed.

530. ——— ——— Replacement of men by women in New York service industries. Monthly labor review, 56: 486-487, March 1943.

The employment of women and minors in retail stores, restaurants, and other service industries has increased in the State of New York since the war began, and the number of men 21 years of age and over has decreased.

531. ——— Women's Bureau. Employment in service and trade industries in Maine. Washington, U. S. Government printing office, 1940. 30 p. (Bulletin no. 180.) Summary in Monthly Labor Review, 52: 612-616, March 1941.

This study of 6,679 workers in service and trade industries in Maine includes information about both men and women; among the subjects treated are earnings, hours of work, and working conditions.

532. ——— ——— Employment of women in the Federal Government 1923-1939. By Rachel Fesler Nyswander and Janet M. Hooks. Washington, U. S. Government printing office, 1941. 60 p. (Bulletin of Women's Bureau no. 182.)

This study of women in Federal service includes statistics and a discussion of the distribution of women among Federal departments; occupations, ages, wages, and methods of qualifying for Government work are discussed.

533. **U. S. Department of Labor. Women's Bureau.** Woman earners in their family environment. Washington, U. S. Government office, 1941. 82 p. (Bulletin no. 183.)

A study of 5,954 women in Cleveland, Ohio and in Utah, employed in various occupations proves that women's earnings are the "supporting pillars in the homes in which such earnings are found." Earnings, contributions to family, age, and marital condition were studied.

534. **Wrenn, C. Gilbert** *and* **Bell, Reginald.** Student personnel problems. New York, N. Y., Farrar & Rinehart, Inc., 1942. 235 p.

A comparison of the problems of women college students with those of men, as indicated by 5,038 new students in 13 colleges and universities is shown in chapter IV. Figures show for men and women students the percentages indicating vocational choices, the distribution by major fields of most difficult courses, and the percentages checking causes of difficulty in "most difficult course."

## BIBLIOGRAPHIES AND OTHER SOURCE MATERIAL

This section of the bibliography includes references to visual aids, Government sources of occupational information, and to general bibliographies on occupations and vocational guidance of particular interest to girls and women. Bibliographies referring to a single occupation or industry have been included under the Occupational Information Section.

535. **Federal Security Agency. U. S. Office of Education.** Information on women's occupations. Education for victory, 1 : 12, Oct. 15, 1942.

A list of agencies in the Federal Government in which types of occupational information of interest to women originate.

536. ——— ——— A partial list of references. Special list on women's training and work in war production. Washington, D. C., The Office, 1943. 3 p. mimeo. (Misc. 3483.)

A list of visual aids on women's training and employment in war production work prepared by the Vocational Training Program for War Production Workers. Annotations on 10 motion pictures and slide films on women's training and work in war production.

537. ——— ——— Wartime occupations. By Walter J. Greenleaf. Washington, D. C., The Office, June 1942. 15 p. (Misc. 2976.)

A selected bibliography of 71 books on wartime occupations.

538. ——— ——— Women's contributions in wartime. Compiled by Helen Ellis Wheeler. Washington, D. C., The Office, 1942. 7 p. mimeo. (Misc. 2951.)

An annotated bibliography with 41 references on women's work in wartime, both paid and volunteer.

539. **National Association of Deans of Women.** Guide to guidance. Washington, D. C., The Association.

Volume III, 1941. 79 p.
Volume IV, 1942. 83 p.
Volume V, 1943. 67 p.

Annotated bibliographies arranged under such headings as: The current scene; position of the dean of women, advisor of girls, and personnel worker; organization and administration of student personnel; areas of student counseling; miscellaneous; bibliographies.

540. **U. S. Library of Congress.** Women's part in World War II. A list of references compiled by Florence S. Hellman. Washington, D. C., The Library, 1942. 84 p. mimeo.

References on women's employment, voluntary services, and participation in the armed forces as well as on more general phases of the war activities of women in U. S., Great Britain, and other countries.

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**United States Government Printing Office - - - Washington: 1944**

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# STATEMENT TO THE NATIONAL WAR LABOR BOARD

in Support of Union's Request

# TO ABOLISH DISCRIMINATION AGAINST MARRIED WOMEN

**U. S. DEPARTMENT OF LABOR**
**WOMEN'S BUREAU**

**July 1945**

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington 25

## Statement Summarizing National War Labor Board Ruling re Marital Status Discrimination in Upstate Telephone Case

The National War Labor Board recently issued a directive order and press release in the case of Upstate Telephone Company, Johnstown, N. Y., and Upstate Telephone Workers' Union, N.F.T. W., Case No. 111-11514-D, decided July 30, 1945.

This case involved, among other issues, the question of discrimination by the employer against women in hire and tenure of employment, on the basis of marital status. For a number of years, the telephone company had followed the policy of refusing to hire married women and of discharging women employees upon marriage. During the war, the company employed married women on a temporary basis but denied them pension and health benefits accorded to the regular staff. The union petition to the National War Labor Board included the request that the employer be directed to discontinue discriminatory practices against women workers.

In view of the detrimental effects on women's opportunities to earn a living of the company's policies with respect to hiring and tenure, the Women's Bureau filed a separate statement with the National War Labor Board pointing out the unfortunate economic, social, and legal implications of these company practices and requesting remedial action by the National War Labor Board.

The National War Labor Board gave a ruling favorable to the union on this issue, establishing a precedent which is of special interest to unions and to women members. In the directive order, the National War Labor Board laid down as one of the terms and conditions governing the relationship between the parties, the mandatory requirement that

> "No employee shall be discriminated against by the company with respect to benefits, terms, or conditions of employment because of her marital status."

The Board ordered the parties to incorporate such terms and conditions in a signed agreement, thus insuring continuing observance of the non-discriminatory policy during the life of the contract.

October 19, 1945

(WB-46-67)

# STATEMENT TO THE NATIONAL WAR LABOR BOARD

## In Support of Union's Request

## TO ABOLISH DISCRIMINATION AGAINST MARRIED WOMEN

The following statement was prepared by the Women's Bureau of the U. S. Department of Labor at the request of a local telephone workers union in connection with its case before the National War Labor Board, in which one of the issues in dispute was discharge of women employees upon marriage and refusal to hire married women. In view of the future implication of the employment practices involved, the Women's Bureau was glad to prepare such a statement in support of the union's position in this case.

The Women's Bureau calls attention to the fact that while postwar adjustments are ahead for all workers, it will be the women workers who will be challenged first by public opinion if there are not enough jobs to go around, and in particular the employed married women.

Employment policies and practices affecting married women will be watched by many organizations both national and local, including various women's groups, some of which have worked for years to improve women's employment opportunities and to prevent discrimination against them, as well as to raise standards for their working conditions. Such policies will assume increasing importance from now on.

The brief that follows analyzes the financial and economic factors that enter into the situation of married women working. It will be interesting to all groups—women's organizations, trade unions, community agencies—that are studying employment problems in the reconversion and postwar periods. This is primarily a woman's problem, since discrimination against employment of married women extends eventually to discrimination against employment of women as such.

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BEFORE THE NATIONAL WAR LABOR BOARD

Upstate Telephone Corporation of New York )
and )
Upstate Telephone Workers' Union, ) Case No. 111-11514-D
affiliated with the National )
Federation of Telephone Workers )

# STATEMENT OF
# THE U. S. WOMEN'S BUREAU

## I. The Issue

The Women's Bureau of the United States Department of Labor presents this statement in support of the union request to abolish discrimination against married women. The facts show that for a number of years the company has followed the policy of refusing to hire married women and of discharging women employees upon their marriage. During the current labor shortage occasioned by the war, the company has modified its policy by employing married women on a temporary basis, but it denies them pension and health benefits accorded to the regular staff.

The Women's Bureau believes that selection of an individual for a job should be based on his ablilty to do the work, not on the totally unrelated factor of marital status. The right to work, or rather, to compete freely with other individuals for the sale of one's services, is an inherent right, implicit in a democratic system of government.

Discrimination against married women amounts, in actual fact, to discrimination against all women workers. It militates against the economic security of women as a class, weakens their bargaining power, and impairs their wage-earning status.

A company policy that denies job tenure to women employed during the war and withholds opportunity for employment from all maried women in the postwar period threatens the successful functioning of the national economy. It is the position of the Women's Bureau that such a policy constitutes a gross inequity against a minority group of workers, and that the issue is of such urgent national importance as to demand immediate remedial action by the National War Labor Board.

## II. Summary of Argument

### *POINT 1*

Women workers as a group constitute a significant and constantly increasing proportion of the total labor force. The proportion of married women to single women both in the labor force and in the population generally has been gradually increasing since the beginning of the century. The long-time trend toward the increasing employment of women was accelerated by the war, and part of the additional increase will be permanent.

### *POINT 2*

Most married women who work outside their homes do so from economic necessity. Official data show that in recent peacetime years a large proportion of male wage earners did not earn sufficient wages on an annual basis to support a family at a minimum adequate standard of living, and further that the total income of a large proportion of families was insufficient to maintain such a standard. The fact that large numbers of married women are concentrated in the less desirable, unskilled, low-paid industries, is further evidence of their economic need to work. Women's Bureau studies over a quarter of a century, including a current survey of Buffalo and Erie County, New York, show that a large majority of employed married women regularly use their earnings for the support of their families and other relatives.

### *POINT 3*

Though at common law the male wage earner had sole legal responsibility for family support, statutes have been enacted in some States imposing on the wife joint responsibility for the purchase of family necessaries.

### *POINT 4*

Maintenance of an employment policy which discriminates in hiring or tenure of employment against married women workers as a class violates inherent personal rights of individuals and is detrimental to the public welfare. It interferes with the right to work, results in restraint of freedom to marry, and threatens to increase the load on the public relief system.

### *POINT 5*

Official data show that discrimination against married women is not the general practice in the telephone industry. Such a policy is not supported by accepted industrial practice and is not justified by the "spread the work" theory. The "spread the work" policy, if fairly applied, would require determination of individual need. However, future prosperity will be based not on spreading the work but on an economy of full employment.

## III. Argument

### *POINT 1*

*Women workers as a group constitute a significant and constantly increasing proportion of the labor force. The proportion of married women to single women both in the labor force and in the population generally has been gradually increasing since the beginning of the century. The long-time trend toward the increasing employment of women was accelerated by the war, and part of the increase will be permanent.*

A. Position of Women in the Labor Force.

*Increasing employment of women.*—Census data show that women are a permanent and a constantly increasing part of the country's labor force. In 1900, women gainfully employed outside their homes numbered less than 5½ million, 19 percent of all women of working age and 18 percent of all persons gainfully employed. In 1940, the number of women in the labor force had increased to nearly 13 million, over 25 percent of all women of working age and 24 percent of all persons in the labor force. In March 1945, women employed outside their homes numbered almost 18 million, or 34 percent of all women of working age and 35 percent of all persons gainfully employed. Thus, at the present time, 1 woman is employed of every 3 women of working age in the population, and 1 worker in every 3 is a woman.

TABLE 1.—WOMEN IN THE LABOR FORCE AT VARIOUS PERIODS [1]

| | March 1945 | 1940 | 1920 | 1900 |
|---|---|---|---|---|
| Number of working women of 14 years and over.......... | 17,940,000 | 12,845,259 | 8,636,512 | 5,319,397 |
| Percent these women were— | | | | |
| Of all women of working age...................... | 34.0 | 25.4 | 21.4 | 18.8 |
| Of all persons in labor force.................... | 34.7 | 24.3 | 20.4 | 18.3 |

[1] For complete Census data showing trend 1870-1945, see Exhibit I attached.

*Effect of war.*—As is obvious from Census data, the tremendous employment of women during the present war period is not a new development but merely the acceleration of a long-established trend. Even if there had been no war, the employment of women would have increased during the 1940's. Due to the war the increase in the number of women between 1940 and 1945 was 3 times as great as the increase that normally would have been expected on the basis of the earlier trend. In other words, more than 3 million additional women became workers because of war conditions.

The Bureau of the Census estimates that only about one-half to two-thirds of the additional women who took jobs during the war period will leave the labor market at the end of the war. The others will continue in the postwar labor force. On this basis the Census experts estimate that in 1950 17½ to 18 million women will be in the labor force, either employed or actively looking for work.[1]

B. **Married Women as Wage Earners.**

*Employment and population trend.*—Of particular importance in determining the seriousness of discrimination against married women workers is the position of such workers in the total woman labor force. Granted that the number and proportion of women workers as an employed group is constantly increasing, the question at once arises as to the position of married women in that group. Are married women who work outside their homes a significant proportion of all women wage earners or are a mere handful of women workers married?

Surprising as it may be to those who hold the traditional belief concerning "woman's place," census data show a constant increase in the number and proportion of married women wage earners. Part of this increase is due to the fact that the proportion of married women in the population is gradually increasing.[2] However, basically the condition undoubtedly is due to social and economic forces that increasingly make it desirable and necessary for women to work outside their homes.

Table 2 shows that the proportion of married women employed outside their homes tripled in the period 1900 to 1940. In 1900 only 5.6 percent of the married women in the population were gainfully employed outside their homes. In 1920, 9 percent were so employed. In 1940, the last peacetime year, married women employed outside the home constituted 15 percent of the total woman population.

TABLE 2.—MARITAL STATUS OF WOMEN 14 YEARS OLD AND OVER IN THE LABOR FORCE IN RELATION TO THE TOTAL WOMAN POPULATION

| Marital status | 1940 | | 1920 | | 1900 | |
|---|---|---|---|---|---|---|
| | Women in population | Percent in labor force | Women in population | Percent in labor force | Women in population | Percent in labor force |
| Total women... | 50,549,176 | 25.4 | 36,190,483 | 23.3 | 25,024,415 | 20.4 |
| Married.......... | 30,087,135 | 15.2 | 21,318,933 | 9.0 | 13,810,057 | 5.6 |
| Single........... | 13,939,386 | 45.6 | 14,871,550 | 43.8 | 8,381,996 | 40.9 |
| Widowed and divorced........ | 6,522,655 | 29.7 | (1) | - | 2,832,362 | 32.5 |

[1] Combined with single in this year.

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[1] Census Bureau Release 3-2696, April 11, 1945.

[2] Exhibit II attached shows marital status of the woman population, 1890-1944; Exhibit III shows marital status of women in the labor force, 1900-1944.

*Effect of the war.*—The war greatly accelerated the trend toward increasing employment of married women. Between April 1940 and March 1944 the number of married women in the labor force increased by nearly 3,000,000, or two-thirds of the total influx of 4½ million women workers in that period. For the first time in the country's history, married women outnumbered single women in the employed group. Twenty-three percent of all married women were working.

TABLE 3.—MARITAL STATUS OF WOMEN WORKERS IN WARTIME, MARCH 1944[1]

| Marital status | 1944 (March) | | |
|---|---|---|---|
| | Women in population | Women in labor force | |
| | | Number | Percent |
| Total | 52,320,000 | 16,880,000 | 32.3 |
| Married | 32,490,000 | 7,460,000 | 23.0 |
| Single | 13,110,000 | 7,230,000 | 55.1 |
| Widowed and divorced | 6,720,000 | 2,180,000 | 32.4 |

[1] Source: Women's Bureau Special Bull. 20, 1944. Census data for 1945 are not available to show employment of women by marital status.

Official data indicate not only that the number of married women in labor force after the war will be considerable greater than the 4½ million employed before the war, but that a larger proportion of married women workers will be in the older age group. A recent statistical forecast[3] points out that for women in the age group 45 to 64 years an increase of 1,500,000 or 60 percent is to be expected in this decade, even on the basis of minimum allowance for expansion resulting from the war. Older women are already handicapped in the competition for jobs because employers generally prefer younger workers. An employment policy that discriminates against married women would have the most serious effect on the older group, the large proportion of whom are married.

The results of such a policy cannot be measured, however, by its effect on any one group. A policy that discriminates against married women in tenure of employment affects all women because it destroys their job security and presents a constant threat of unemployment. Such a policy is, in reality, unjust discrimination against a considerable and increasingly important minority group of workers.

## POINT 2

*Most married women who work outside their homes do so from economic necessity. Official data show that in recent peacetime years a large proportion of male wage earners did not earn sufficient wages on an annual basis to support a family at a minimum adequate standard of living, and further that the total income of a large proportion of families was insufficient to maintain such a*

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[3] International Labor Review, VOL. XLVIII, No. 6, December 1943, "The Postwar Employment of Women, a Statistical Forecast," by John D. Durand, Bureau of the Census.

*standard. The fact that large numbers of married women are concentrated in the less desirable, unskilled, low-paid industries, is further evidence of their economic need to work. Women's Bureau studies over a quarter of a century, including a current survey of Buffalo and Erie County, New York, show that a large majority of employed married women regularly use their earnings for the support of their families and other relatives.*

### A. Income and Cost of Living

Presumable no one questions the need to work of a married woman whose husband is absent, perhaps in the armed services, and who has no appreciable source of income other than her own earnings. Among women with husbands present, the economic need that exists where the husband is ill or incapacitated also is clearly apparent. However, large numbers of married women need to work even where the husband is both present and employed. For very many American families it is impossible to maintain an adequate standard of living on the earnings of only one wage earner. Where the husband is the chief provider, it is in great numbers of cases absolutely essential for the wife to supplement his earnings by taking a paid job outside the home.

Most married women who work outside their homes do so from economic necessity. This fact is a matter of everyday knowledge, and it can be demonstrated statistically, as the data here presented will show.

*Cost of living data.*—One of the best methods of determining whether a family income is adequate is to compare it with a priced cost-of-living budget. A cost-of-living budget represents the quantity of goods and services that a family must have to maintain a specified standard of living. The items that comprise such a budget are predetermined and remain fixed over a period of years. However, the cost of supplying the items constantly varies in accordance with changes in retail prices. Hence a budget study gives a realistic picture of what is costs a family to maintain a specified standard of living during a period of rising living costs.

The budget most commonly used today was prepared by the WPA in 1935 to represent a "maintenance level of living" for a 4-person family of a manual worker. This budget was described as "not so liberal as that for a health and decency level which the skilled worker may hope to obtain, but it affords more than a minimum subsistence of living."[4]

The Bureau of Labor Statistics of the U. S. Department of Labor cooperated with the WPA in obtaining prices necessary to compute the original cost of the budget in 1935. An identical list of goods and services was priced in each of 59 cities at that time. Between March 1935 and the spring of 1939, no attempt was made to price this budget. From 1939 through 1943 the figures were kept up to date for 31 cities by the Bureau of Labor Statistics, by applying Bureau of Labor Statistics indexes of living costs to WPA data.

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[4] For items included in maintenance budget, see WPA publication "Intercity Differences in Cost of Living, March 1935, 59 Cities." Research Monograph XII.

Two New York cities—Buffalo and New York City—are represented in the family maintenance budget material. In 1939, the budget for New York City was $1,471.45, for Buffalo $1,277.55; in 1943, New York City, $1,800.38, Buffalo, $1,626.49.

TABLE 4.—COST OF LIVING OF A 4-PERSON MANUAL WORKER'S FAMILY AT MAINTENANCE LEVEL [1]

| Cities | 1943 | 1942 | 1941 | 1939 |
|---|---|---|---|---|
| New York................ | $1,800.38 | $1,757.86 | $1,519.44 | $1,471.45 |
| Buffalo.................. | 1,626.49 | 1,598.13 | 1,327.72 | 1,277.55 |

[1] Source: Bureau of Labor Statistics Monthly Labor Review, November 1939, p. 1166; May 1941, p. 1230; April 1943, p. 747; October 1943, p. 804. (No official budget data subsequent to 1943 are available.)

The right to an adequate standard of living has been designated as one of the four freedoms. In the United States, it is expected that the head of the family will work to provide at least a maintenance level for family members. However, a large proportion of male wage earners do not have a sufficient annual income in normal years to support a family even at a maintenance standard. It is a mistake to assume that a woman can be supported without working simply because she is married.

*Earnings of male wage earners.*—Census data for 1940[5] show wage and salary income for 25,183,880 male workers in 1939. Almost half, or 48.3 percent of all male workers earned less than $1,000 in the year 1939. Well over half, 57.7 percent earned wages or salaries less than $1,200. Obviously, one reason for the large proportion of men with low annual earnings is the fact that even in 1939, a so-called "normal year", many men were not able to obtain employment the year-round. However, of approximately 15,000,000 male workers who reported employment for 12 months of the year, 40 percent earned less than $1,200 for the year's work.

Since the preceding data include both urban and rural workers, the fact that income data for the city of Buffalo shows a correspondingly low income ratio is significant. Census data show that 56.2 percent of male workers in Buffalo earned less than $1,200 in 1939. Of the men who were able to obtain employment 12 months of the year, 35.3 percent earned less than $1,200.

The official family maintenance budget for the city of Buffalo in 1939 as computed by Bureau of Labor Statistics was $1,277.55. This budget is officially described as below the health and decency level which a skilled worker may hope to attain. In other words, if the male worker were the only support of the family, over half the families could not have maintained a maintenance standard of living in Buffalo in 1939.

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[5] For detailed Census data, see Exhibit IV attached.

TABLE 5.—WAGE OR SALARY INCOME OF EXPERIENCED MALE PERSONS IN 1939 IN BUFFALO, N. Y. [1]

| | Total | Receiving under $1,200 | |
|---|---|---|---|
| | | Number | Percent |
| All men | 163,295 | 91,727 | 56.2 |
| Men who worked 12 months | 93,476 | 33,017 | 35.3 |

[1] Source: U. S. Census 1940, Population, Vol. III, Pt. 4, table 16, pp. 438-439.

*Family income.*—The question naturally presents itself as to what is the income picture when the earnings of all wage earners in the family are combined. Do the facts show that the combined income of all its members puts the average family in the higher income class, or do the adult members of most families still have to worry about having enough money to live at a "maintenance" level?

The 1940 Census data on this point are illuminating. They show that of a total 24½ million families with wage and salary income, 65 percent had no other income as compared with 35 percent that had some income from other sources. Of the families with no income except wages and salaries, 37.2 percent received less than $1,000 a year; 45.4 percent received less than $1,200 a year. Of the families that received both wage and salary income and some other income as well, 48.5 percent received under $1,000 in wages and salaries; 55.5 percent received less than $1,200 in such income.

TABLE 6.—FAMILIES BY FAMILY WAGE OR SALARY INCOME AND RECEIPT OF OTHER INCOME IN 1939 [1]

| | Total families | | Distribution by wage or salary income | | | |
|---|---|---|---|---|---|---|
| | | | Under $1,200 | | $1,200 and over | |
| | Number | Percent | Number | Percent | Number | Percent |
| All families with wage and salary income | 24,550,580 | 100.0 | 12,007,580 | 48.9 | 12,543,000 | 51.1 |
| Families without other income | 15,928,300 | 64.9 | 7,223,520 | 45.4 | 8,704,780 | 54.6 |
| Families with other income | 8,622,280 | 35.1 | 4,784,060 | 55.5 | 3,838,220 | 44.5 |

[1] Source: Census, 1940, Population, Families. Family Wage or Salary Income in 1939, Regions and Cities of 1,000,000 or more, table 1, p. 2.

In 1942, the Bureau of Labor Statistics made a survey of family spending in wartime, covering income and expenditures among a cross section of all city consumers - families and single persons - for the year 1941 and the first three months of 1942. Published data[6] show that in 1941, 29 percent of city families of two or more persons surveyed had annual incomes under $1,500. In the first three months of 1942, 27 percent of families had incomes under $1,500.

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[6] Bureau of Labor Statistics Bulletin 724. "Income and Spending and Saving of City Families in Wartime," 1942, table 1, p. 3.

To understand the full meaning and significance of such annual incomes, they need only be compared with the official Bureau of Labor Statistics family maintenance budgets for the year 1941: $1,519.44 for New York City and $1,327.72 for Buffalo. For 1942: $1,757.86 for New York City and $1,598.13 for Buffalo.

## B. Concentration of Married Women in Low-Wage Industries.

Further evidence that married women work because of need is found in the fact that in 1940 about 55 percent of all married women workers were employed in the traditionally low-paid occupations.

In no individual occupation on the standard intermediate list of 76 occupations for females issued by the Bureau of the Census were married women the majority of total workers. In six, however, they were the dominant group, exceeding the men, the single women, or the widowed and divorced group. These six, all of which ranked relatively low among the occupational fields, are operatives in apparel manufacture, in tobacco, in laundry work, and in knit goods manufacture; boarding house keepers; and dressmakers.

Also significant is the relative proportion of married to other groups of women in the principal woman-employing occupations. The leading individual occupation for married women, in numbers employed, is that of domestic service worker, followed by that of saleswoman.

Over 700,000 or more than one-third of women employed as domestic service workers were married women. Over 300,000 or 40 percent of women employed as saleswomen were married women. Sixty-six percent, or two-thirds of all women operatives in cotton manufactures were married women, as were 46 percent of operatives in textiles, and 40 percent of waitresses.

TABLE 7.—OCCUPATIONS EMPLOYING 100,000 OR MORE MARRIED WOMEN IN 1940 [1]

| Occupation | Married women workers | |
|---|---|---|
| | Number | Percent of all women workers |
| Domestic service workers | 739,195 | 34.1 |
| Saleswomen, clerks in stores, etc | 323,138 | 40.4 |
| Stenographers, typists, secretaries | 255,988 | 24.2 |
| Operatives in apparel and other fabricated textile products | 229,787 | 46.0 |
| "Other" clerical and kindred workers | 203,808 | 27.7 |
| Teachers (including county agents) | 194,428 | 24.5 |
| Waitresses | 159,979 | 39.6 |
| Bookkeepers, accountants, cashiers, and ticket agents | 153,150 | 32.4 |
| Operatives in cotton manufactures | 116,232 | 65.7 |

[1] Source: U. S. Census, 1940, Population, Vol. III, Part 1, table 68, pp. 111-112.

These are occupations which would not reasonably be expected to attract women who work only to satisfy a desire for self-expression. The fact that married women predominate in such occupations shows that large numbers of married women work from sheer economic necessity to help support themselves and their families.

### C. Contributions of Married Women Workers to Family Support.

Women's Bureau studies over more than a quarter century show that married women workers as a group carry their full share of the financial responsibility for the support of themselves and their dependents. Their earnings often are used not only to help maintain their own immediate families of husband and children but to support other relatives as well. Not infrequently women must continue after marriage to assume part of the support of parents who have passed beyond working age or of brothers and sisters who are still so young as to be in school. The proportion of older persons in the population is increasing and their needs are not now adequately met through the national old-age insurance system. In many instances the greater burden of their support necessarily must be carried by the married daughter who as an employed wife also pays part of the expenses of her own immediate household.

*Married women workers in Erie County, New York (mostly Buffalo).*—The Women's Bureau is now completing a major survey of women's employment in 11 selected war industry areas. The study, which is based on interviews with the women workers in their homes, includes information on such matters as family responsibilities and postwar plans. Data so far collected in 5 areas show that over 90 percent of employed married women living in family households made regular contributions to family support. For three-fourths of the married women workers interviewed, such contributions amounted to one-half or more of their total take-home earnings.

One of the areas covered in the survey is Buffalo and Erie County, New York. This study shows the great majority of the married women workers in Erie County contribute regularly to maintenance of the family households. Of those with husbands present, more than 8 of 10 made regular contributions; 88 percent of these married women who contributed gave all their earnings to the household as compared with 44 percent of the widowed or divorced women or those with husbands absent and 23 percent of the single women who followed this practice. Ninety-five percent of the total take-home earnings of married women with husbands present were contributed to the family household.

The amount of money contributed was substantial and made a real difference in the standard of living of the families concerned. This is shown by the average weekly take-home earnings of women employed in Erie County after deductions are made for taxes, war bonds, and other purposes.

The wages that women as a class are able to earn, and hence the amount of money that married women can contribute to their families, are of course dependent on general wage levels for women and on women's opportunity for employment. Of great significance in Table

9 is the fact that women in essentially peacetime pursuits in Erie County - civilian manufacturing, laundries and stores - received weekly wages ranging from one-fourth to one-half less than women employed in war plants. In normal times the individual weekly earnings of most married women are not great, since a large proportion of them, as was demonstrated in a preceding section, are concentrated in unskilled low-wage industries. However, as was also demonstrated, the families of a great many married women have such low incomes from other sources that the meager weekly pay envelope contributed by the wife and mother is often literally indispensable to keep the family from the brink of want.

TABLE 8.—EXTENT OF WOMEN WORKERS' REGULAR CONTRIBUTIONS TO FAMILY OR RELATIVES, BUFFALO AND ERIE COUNTY, N. Y. [1]

| Marital status | Women living in family household | | | | Women living apart |
|---|---|---|---|---|---|
| | Percent of all women | Percent who contribute | Of those contributing percent who give all their earnings | Percent of earnings given | Percent who contribute |
| Total women.... | 96 | 94 | 43 | 68 | 27 |
| Single............ | 99 | 99 | 23 | 55 | — |
| Married, husband present.......... | 100 | 84 | 88 | 95 | — |
| Married, husband absent (includes widowed and divorced)....... | 84 | 96 | 44 | 67 | 30 |

[1] Source: Women's Bureau Report on Postwar Employment Plans and Family Responsibilities and Additional Data, for Women Workers in Erie County, N. Y., 1944. (In process.)

TABLE 9.—AVERAGE WEEKLY TAKE-HOME EARNINGS OF WOMEN EMPLOYED IN SPECIFIED INDUSTRIES, BUFFALO AND ERIE COUNTY, N. Y., 1944 [1]

| Occupational group | Average earnings |
|---|---|
| Operatives— | |
| War plants............................ | $35.00 |
| Aircraft............................ | 37.90 |
| Essential civilian manufacturing...... | 24.10 |
| Clerical workers— | |
| War plants............................ | 31.00 |
| Aircraft............................ | 33.10 |
| Essential civilian manufacturing...... | 25.50 |
| Laundry workers.......................... | 21.60 |
| Store employees.......................... | 18.90 |

[1] See footnote to table 8.

Eighty percent of all the women interviewed in Erie County, and practically 60 percent of the married women with husbands present, plan to continue work after the war. In contrast, only 2 out of 5 service men's wives intended to keep on working after the war, a much smaller proportion than of other marital groups. This group is composed largely of younger women who may not yet have learned from experience that the average family cannot maintain an adequate standard of living on the earnings of just one wage earner.

TABLE 10.—SUPPORT RESPONSIBILITIES OF WOMEN PLANNING TO CONTINUE WORK, BY MARITAL STATUS, BUFFALO AND ERIE COUNTY, N. Y. [1]

| Marital status | Women expecting to continue | | | Percent who must support— | |
|---|---|---|---|---|---|
| | Number | Percent of all of specified status | Percent distribution | Self | Others |
| Total women............ | 91,200 | 80 | 100 | 80 | 25 |
| Single.................... | 54,900 | 98 | 60 | 94 | 20 |
| Married, husband present... | 18,200 | 59 | 20 | 34 | 23 |
| Married, husband absent, in service............... | 4,900 | 40 | 5 | 67 | 33 |
| Married, husband absent, not in service (includes widowed and divorced)..... | 13,200 | 94 | 15 | 91 | 44 |

[1] See footnote to table 8.

Among married women who planned to continue work, the large proportion of those with husbands present were one of two earners in the family. About 7 percent of them, however, were the sole supporting earner, indicating that many Erie County women must work for the family upkeep because their husbands are unable to work at all.

TABLE 11.—NUMBER OF CONTRIBUTING EARNERS IN FAMILIES OF WOMEN PLANNING TO CONTINUE WORK, BUFFALO AND ERIE COUNTY, N. Y. [1]

| Status as family earners | Total women | | Marital status | | |
|---|---|---|---|---|---|
| | Number | Percent | Single | Married, husband present | Married, husband absent, and widowed and divorced |
| Total............ | 86,700 | 100 | 53,700 | 18,200 | 14,800 |
| | | | Percent distribution | | |
| Sole contributing earner.............. | 9,900 | 11 | 7 | 7 | 34 |
| One other earner..... | 38,000 | 44 | 39 | 68 | 33 |
| Two or more other earners............ | 35,100 | 41 | 53 | 14 | 28 |
| Earners not contributing............ | 3,700 | 4 | 1 | 11 | 5 |

[1] See footnote to table 8.

The Women's Bureau study clearly shows that notwithstanding the fact that many married women expect to retire from the labor force after the war, the number who will find it necessary to work will be considerably larger than in 1940. Plans for future employment must include these women as their own well being and the welfare of the community depends on it. The economic problems of an area can by no means be solved on the assumption that married women can leave the labor market, for in fact the families of many of them cannot afford to have them do so.

*Other Women's Bureau studies.*—Early evidence as to the financial responsibility of women workers for the support of others as presented in Women's Bureau Bulletin 75, published in 1929, "What the Wage-Earning Women Contributes to Family Support," and in Part I, Ch. 4, Women's Bureau Bulletin 155, published in 1937, "Women in the Economy of the United States." The latter bulletin contains selected data from 72 reports from various Government and private sources dealing with women workers' family responsibilities. Additional data are presented in Women's Bureau Bulletin 168, "Employed Women and Family Support," published in 1939. Attached as Exhibit V is a list of various Women's Bureau reports containing data on the responsibilities of employed women for family support, tabulated by marital status.

## *POINT 3*

*Though at common law the male wage earner had sole legal responsibility for family support, statutes have been enacted in some States imposing on the wife joint responsibility for the purchase of family necessaries.*

Employed married women contribute regularly to the support of of their families not because the law requires it but because the welfare of the family is their first consideration. However, as has frequently been stated, law follows custom. The trend toward the increasing employment of married women outside their homes has been accompanied by statutory changes in some States. These are significant here because they show a growing public awareness of the importance of married women in the country's economic system and the value of their contributions to family support.

At common law the husband had sole responsibility for family support. Most States still follow the common law rule. However, in a number of States, statutes[7] have been enacted to place a certain amount of legal responsibility on the wife. Thus 19 States now make both parents jointly responsible for the support of their minor children: Arkansas, California, Colorado, Connecticut, Illinois, Iowa, Louisiana, Massachusetts, Minnesota, Montana, North Dakota, Oklahoma, Oregon, Pennsylvania, South Dakota, Utah, Washington, West Virginia, Wyoming. Some States make both parents criminally responsible. Among these are: California, New York, Utah, Vermont, Wyoming. Nine States make husband and wife mutually responsible for each other's support: California, Idaho, Montana, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, and South Dakota. Full information concerning the legal responsibility of married women is attached as Exhibit VI. See also Women's Bureau Bulletin 157, "Legal Status of Women in the United States."

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[7] For citations, see Exhibit VI attached.

## *POINT 4*

*Maintenance of an employment policy which discriminates in hiring or tenure of employment against married women workers as a class violates inherent personal rights of individuals and is detrimental to the public welfare. It interferes with the right to work, results in restraint of freedom to marry, and threatens to increase the load on the public relief system.*

*The right to work.*—One of the unenumerated rights implicit in the American system of Government is the right to work. Democratic government tries to safeguard for each individual the maximum amount of personal liberty, consistent with the rights of others. An important part of the concept of individual liberty is freedom to seek employment where the individual worker chooses.

The right to work, like other democratic rights, is often threatened. In the year 1939, 23 State legislatures introduced so-called married women bills, prohibiting the employment of a married woman, usually in public work, or if the husband earned a specified income. Not a single one of the bills passed. Public sentiment repudiated any such flagrant and unjust discrimination against married women workers.

Work is an outlet for talents and intelligence as well as a means of livelihood. Most persons need the satisfaction that comes from working at a paid job. Marital status does not necessarily change this basic human need. Modern methods of housekeeping have minimized the time necessary to do routine household tasks and many women find they have adequate time for outside employment, especially where there are no young children in the home. Not only the professions but for many persons, clerical and industrial work provide a creative outlet or an opportunity for self expression. The degree of satisfaction obtained depends not merely on the type of work but on the working conditions and the wages. Women in the clerical and kindred occupations, such as telephone, usually enjoy their jobs where they are reasonably well-paid. Employment policies that discriminate against married women deprive such women of a needed opportunity for self expression as well as of a money income which is contributed to family support.

The employer of course does not have a duty to hire any particular individual for a job. He does, however, have a social responsibility not to set up artificial restrictions against any one class of workers, barring them from permanent employment on grounds unrelated to their ability to do the job in question. An employment policy which refuses to give equality of opportunity to a large group of women simply on the grounds of marital status is essentially undemocratic and antisocial. Moreover, the knowledge that they have no seniority rights is bound to affect the morale of married women temporarily employed during the war and in consequence lower their efficiency. In a period of national emergency the effect of such a policy is so serious as to be a matter of Government concern.

*Freedom to marry.*—The right to marry is another of the unenumerated rights implicit in the democratic system of Government. Freedom to marry is both a personal and a social right. It is of vital importance to individuals to be able to start a home of their own, and it is also important to the State to have new homes established and family life set up.

The assumption that a woman can afford to stop working merely because she gets married is not today warranted by the facts. Frequently she cannot get married unless her earnings are available to start the new home. Often she has responsibilities to her parents which must be carried on regardless of her new social status. An employment policy that results in discharge of women on marriage is bound to result in postponement of plans for marriage or in some cases is their abandonment entirely. Such a practice is contrary to public policy and merits the strongest condemnation.

*The potential public-relief burden.*—The policy of discharging women on marriage increases the potential load on the public-relief system because it deprives women workers of the advantages of Federal old-age insurance and State unemployment compensation to which they should be entitled by reason of deductions from their wages.

One of the objectives that individuals seek to accomplish through employment is the accumulation of savings for old age. No worker wants to be dependent on the public-relief system in old age and it is to society's interest that he should not be so. Many wage earners do not earn enough to accomplish this purpose through their own efforts. It was for this reason that the Federal OASI program was set up, with the provision that a part of a worker's earnings should be deducted and set aside for his old age by the Government.

Women workers employed by the Upstate Telephone Company are subject to the same Federal old-age insurance deductions as employees of other companies. They do not, however, have job security, since they at once lose their jobs if they change from a single to a married status. For many women who are trained telephone operators it may be difficult to adjust to other employment. Denial of opportunity in the work they are trained to do may mean only sporadic and infrequent attachment to the labor market. In such cases, discharge may prevent the accumulation of sufficient wage credits to become entitled to primary benefits due wage earners under the Federal Old-Age Insurance system. Secondary benefits, to which they may be entitled as wives or widows, are smaller in amount and do not compensate for loss of benefits based on taxes deducted from their own wages.

Under a number of State unemployment compensation laws, women who become unemployed because of marriage are disqualified for benefits. While a few State laws do not disqualify a woman worker unless she "voluntarily" gives up her job to marry, other laws deny benefits merely for "discontinuation of work because of marriage." In the latter group are Minnesota, Montana, Nebraska, Nevada, North Dakota, Ohio, South Dakota, and Wisconsin. In four States: Nebraska, Nevada, North Dakota, and Wyoming, the law provides that a woman whose employment is terminated because of marriage not only is disqualified to receive benefits during her current period of unemployment but loses all her wage credits accumulated prior to marriage. Two States expressly penalize a woman who marries in violation of an employer's rule not to employ married women and is discharged in consequence - Minnesota, by cancelling all wage credits earned for work with that employer and Wisconsin, by providing for cancellation, on the employer's notification, of all prior wage credits.

Consideration of our present social insurance systems makes it clearly apparent that the policy of discharging women on marriage not only interferes with a woman worker's personal and social right to marry but also tends to make her a potential recipient of public relief. The woman is not the only one to suffer because, as was previously demonstrated, without her earnings the entire family may be reduced to want.

## *POINT 5*

*Official data show that discrimination against married women is not the general practice in the telephone industry. An employment policy which discriminates against married women is not supported by accepted industrial practice and is not justified by the "spread the work" theory. The "spread the work" policy, if fairly applied, would require determination of individual need. However, future prosperity will be based not on spreading the work but on an economy of full employment.*

### A. Official Data.

*Census data.*—The Census of Population for 1940 reports 189,002 telephone operators as a group in the classification of women in clerical, sales, and kindred occupations. Slightly more than one-half, 52.5 percent, of the telephone operators were single; about one-third, 32.9 percent, were married living in the same household with their husbands; and the remaining group, 14.6 percent, were widowed, divorced or lived apart from their husbands. The single women and the married women with husbands present are reported by age groups. The telephone operators in the age groups under 25 are preponderantly single, but in the groups over 25 the proportions of single and married are quite similar. The proportions of telephone operators who were reported as married are greater than that of women making up the group as a whole in the clerical, sales, and kindred occupation.

TABLE 12.—MARITAL STATUS OF WOMEN EMPLOYED IN THE CLERICAL, SALES, AND KINDRED OCCUPATIONS AND AS TELEPHONE OPERATORS [1]

| Marital status | Combined clerical, sales, and kindred group, including telephone operators | Telephone operators |
|---|---|---|
| Total number | 3,156,982 | 189,002 |
| | Percent distribution | |
| Single | 58.9 | 52.5 |
| Married - Husband present | 29.3 | 32.9 |
| Married - Husband absent | 2.8 | 3.8 |
| Widowed or divorced | 9.0 | 10.8 |

[1] Source: U. S. Census, 1940, Population, Vol. III, Part I, table 68, p. 111.

*Current Women's Bureau data.*—A Nation-wide survey by the Women's Bureau of the telephone industry in six representative areas, for which field work was completed in 1944, is now in process of preparation in report form. The survey includes data from 6 telephone companies employing approximately 14,000 women as follows:

Chesapeake and Potomac of Baltimore City (Maryland)
Southern Bell Telephone & Telegraph Company (Georgia Division)
Mountain States Telephone & Telegraph Company (Colorado Division)
Southwestern Bell Telephone Company (Western Missouri & Kansas)
Illinois Bell Telephone Company (Illinois and Indiana)
Lexington Telephone Company (Kentucky)

Five companies were associates of the Bell Telephone system, while one, the Lexington Company, is a subsidiary of the General Telephone Company, as is the Upstate Telephone Company in New York.

In this survey the Women's Bureau obtained, in addition to other data, information concerning employment policies affecting married women. The Bell Telephone System, which employs more than 90 percent of all telephone workers in the United States, had no policies prejudicial to married women in the five associated companies surveyed. The Lexington Company, however, reported that for a number of years before the war a female employee was required to resign upon marriage, and married women, of course, were not hired. During the last few years this policy has been relaxed somewhat and former employees though married have been called back to help out for the war period, but they were regarded merely as temporary employees for the duration of the emergency. The effect of this policy was reflected in the proportion of total married women employed in operating and clerical groups, 24 percent in the Lexington Company as compared with 37 percent in the Bell System companies. In other words, the proportion of married women is approximately 50 percent higher in the Bell System.

Since a large proportion of the women over 25 available for employment are married, an employer by cutting out the married women tends to increase turnover and have a high proportion of young inexperienced women. Training programs in the telephone industry are highly developed both for the student and for the operator in the first years on the job, necessitating thorough coaching to attain skill and all around performance. To remove workers who have been trained to their full skill is wasteful both for the industry and for the worker. Furthermore, since long wage progression periods are customary in the telephone industry to reach maximum rates of pay, the discharge of women on marriage denies women workers the opportunity to acquire seniority and to obtain better earnings. The net effect, of course, is to depress the nominal wage scale.

The Upstate Telephone Company also has its own pension system, but denies pension rights to married women employed during the war. Limitation of pension rights to single women is of course advantageous to the company, as only a small proportion of women employees can ever become entitled to a pension. Obviously the company is under no legal obligation to maintain any pension plan for its employees. However, where such a policy is maintained wage rates are usually adjusted accordingly; hence there would seem to be no justification for dismissing women on marriage and thus keeping the number of recipients to a minimum.

*Industrial practice elsewhere.*—With the increasing number of married women in industry and the acceptance of their need and right to work, the policy of requiring women to resign automatically on marriage is obsolete and is not a customary practice with progressive employers. The most recent study of managerial attitudes toward the employment of women after marriage was made by the National Industrial Conference Board in 1939. This study showed that in 90 percent of the companies plant workers and in 74 percent office workers were permitted or even encouraged to continue work after marriage.[8] Many executives expressed the belief that the intrusion of an employer in the private affairs of employees such as marriage was not justified and they were convinced that no social gains were attained by forcing women to retire from their jobs on marriage.

### B. Future Employment Policy

*The "spread-the-work" theory.*—The policy of depriving married women of an opportunity to work is based on the theory that the unemployment problem would be solved if only married women would stay in their homes. Such a philosophy overlooks the fact that the country has passed beyond pioneer days. At that time women worked in the home to bake the bread their families ate and make the clothes their families wore. Since then those functions have moved from the home into factories, stores, and service establishments. When jobs were taken out of the home, women followed them into industry.

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[8] "The Management Record" October 1939, National Industrial Conference Board, 247 Park Avenue, New York, N. Y.

Discrimination against married women is not justified on the ground that it "spreads the work" to discharge women whose husbands are working. If a philosophy is adopted that jobs be given on the basis of need, it should apply to all persons who do not need to work - single women with families who can support them, married men with private incomes, single men with other sources of revenue. A classification based on marriage is unrealistic because there is no correlation between marital status on the one hand, and the need for earnings, on the other. Marriage these days is no open sesame to high or even adequate standards of living.

The experience of the 30's proved the fallacy of the "spread the work" theory in this country. The work was spread very thin, earnings of workers decreased, the demand for goods declined, more and more workers were out of employment, and entire families faced actual starvation. Postwar prosperity demands the opposite of this policy - jobs for all who want to work.

*Full employment.*—The welfare of the entire country, the well-being and happiness of all its citizens, is predicated after the war on opportunity for useful and regular employment for all persons who want to work. A program of full employment is essential to achieve the greatest possible production of goods and services, to maintain a high level of purchasing power, and to raise the standard of living of the average family to a "health and decency" level.

In the establishment of a sound national economy, it is essential that women be given the same consideration as other workers. The historical development of women's employment shows that women workers are a permanent and constantly increasing part of the labor force. Economic pressure and responsibility for the maintenance of themselves and others require that many women seek and find paid jobs.

The practice of refusing to hire married women and of denying job security to women employees who marry discriminates against women as a class. Such discrimination results not in putting women back in their homes but in forcing them to accept jobs at low wage rates and under undesirable working conditions. Discrimination against women tends, therefore, to depress wage rates generally and to break down labor standards. In the final analysis such an employment practice is detrimental to the entire country because its ultimate effect is to decrease purchasing power, reduce consumption of goods, and in consequence to deprive other workers of jobs.

*Conclusion.*—It has been demonstrated that the practice of discriminating against women workers on the ground of marital status denies the means of livelihood to a large and important group of workers, that it is socially undesirable and economically unsound, and that it threatens seriously to interfere with the development of a sound national economy. The Women's Bureau urges the National War Labor Board to direct the elimination of this discriminatory practice.

EXHIBIT I

### *Number of Women in the Labor Force,* [1] *Percent They Constitute of All Persons in the Labor Force* [1] *and of All Women of Working Age, 1870–1945* [2]

| Year | Women in the labor force [1] [2] | | |
|---|---|---|---|
| | Number | Percent of all persons in the labor force | Percent of all women of working age |
| 1945 [3] | 17,940,000 | 34.7 | 34.0 |
| 1944 [3] | 16,880,000 | 32.9 | 32.3 |
| 1940 | 12,845,259 | 24.3 | 25.4 |
| 1930 [4] | 10,679,048 | 22.0 | 24.3 |
| 1930 [5] | 10,752,116 | 22.0 | 22.0 |
| 1920 | 8,636,512 | 20.4 | 21.4 |
| 1910 | 7,444,787 | 19.9 | 21.5 |
| 1900 | 5,319,397 | 18.3 | 18.8 |
| 1890 | 4,005,532 | 17.2 | 17.4 |
| 1880 | 2,647,157 | 15.2 | 14.7 |
| 1870 | 1,917,446 | 14.8 | 13.3 |

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[1] "Gainfully occupied," 1870–1930; "in the labor force," 1940, 1944, and 1945.

[2] Figures before 1930 are for persons 10 years old and over; figures for 1940, 1944, and 1945 are for persons 14 years old and over; both these age groups are shown for 1930.

Source: U. S. Census, 1940, Population: Data for 1870–1930 are corrected figures from Comparative Occupation Statistics for the United States, 1870–1940, Table XIV, p. 91; data for 1940 from Vol. III, Part 1, Table 1, p. 3. Data for 1944 and 1945 from Bureau of the Census, Monthly Report on the Labor Force.

[3] Estimated civilian labor force, and population for March.

[4] 14 years old and over.

[5] 10 years old and over.

EXHIBIT II

## *Marital Status of the Woman Population of the United States, 1890 to 1944* [1]

| Year | Number of women by marital status | | | | Percent distribution of women by marital status | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Single [2] | Married | Widowed and divorced | Total | Single [2] | Married | Widowed and divorced |
| 1944 (March).... | 52,320,000 | 13,110,000 | 32,490,000 | 6,720,000 | 100.0 | 25.1 | 62.1 | 12.8 |
| 1940 [3].......... | 50,549,176 | 13,939,386 | 30,087,135 | 6,522,655 | 100.0 | 27.6 | 59.5 | 12.9 |
| 1940 [4].......... | 49,361,562 | 12,751,772 | 30,087,135 | 6,522,655 | 100.0 | 25.8 | 61.0 | 13.2 |
| 1930 ........... | 42,837,149 | 11,359,038 | 26,170,756 | 5,307,355 | 100.0 | 26.5 | 61.1 | 12.4 |
| 1920 ........... | 35,177,515 | 9,667,653 | 21,318,933 | 4,190,929 | 100.0 | 27.5 | 60.6 | 11.9 |
| 1910 ........... | 30,047,325 | 9,001,342 | 17,684,687 | 3,361,296 | 100.0 | 29.9 | 58.9 | 11.2 |
| 1900 ........... | 24,249,191 | 7,606,772 | 13,810,057 | 2,832,362 | 100.0 | 31.4 | 57.0 | 11.7 |
| 1890 ........... | 19,602,178 | 6,250,912 | 11,124,785 | 2,226,481 | 100.0 | 31.9 | 56.8 | 11.4 |

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[1] Data for 1890 to 1930 are for the woman population 15 years old and over; data for 1944 are for the woman population 14 years old and over; both these groups are shown for 1940.

Source: 1944 data, U. S. Department of Labor, Women's Bureau, Special Bulletin 20, p. 22; 1890 to 1940 data, U. S. Census, 1940, Population, Vol. IV, Table 5, p. 16 and Table 2, p. 9.

[2] 1890 to 1930 figures include unknown with single.

[3] 14 years old and over.

[4] 15 years old and over.

*EXHIBIT III*

## *Marital Status of Women 14 Years Old and Over in the Labor Force or Gainfully Occupied*

| Marital status | 1944[1] (March) | 1940[2] | 1920[3] | 1900[3] |
|---|---|---|---|---|
| | Number of women | | | |
| Total.............. | 16,880,000 | 12,845,259 | 8,429,707 | 5,114,000 |
| Married................. | 7,460,000 | 4,560,835 | 1,920,281 | 769,477 |
| Single[4] ............... | 7,230,000 | 6,349,474 | 6,509,426 | 3,424,082 |
| Widowed and divorced.... | 2,180,000 | 1,934,950 | | 920,441 |
| | Percent distribution | | | |
| Total.............. | 100.0 | 100.0 | 100.0 | 100.0 |
| Married................. | 44.2 | 35.5 | 22.8 | 15.0 |
| Single[4] ............... | 42.8 | 49.4 | 77.2 | 67.0 |
| Widowed and divorced.... | 12.9 | 15.1 | | 18.0 |

[1] Source: U. S. Department of Labor, Women's Bureau, Special Bulletin 20, Table 11, p. 29.

[2] Source: U. S. Census, 1940, Population, Vol. III, Part 1, Table 9, p. 26.

[3] Source: U. S. Census, 1930, Population, Vol. V, Table 1, p. 272, and Table 6, p. 347; and 1940, Population, Comparative Occupation Statistics for the United States, 1870 to 1940, Table II, p. 13.

In 1920 and 1900 marital status is reported for gainfully occupied women 15 years old and over. Girls 14 years old are assumed to be single. 1900 figures are partly estimated.

[4] 1900 and 1920 figures include unknown with single.

EXHIBIT IV

### *Persons Who Were Wage or Salary Workers (Except on Emergency Work) in March 1940, by Wage or Salary Income in 1939, for the United States* [1]

| Wage or salary income in 1939 | Wage or salary workers (except on emergency work), March 1940 | | Percent distribution | |
|---|---|---|---|---|
| | Total | Male | Total | Male |
| Total with wage or salary income | 34,762,300 | 25,183,880 | 100.0 | 100.0 |
| $1 to $99 | 1,277,280 | 606,340 | 3.7 | 2.4 |
| $100 to $199 | 2,203,520 | 1,235,580 | 6.3 | 4.9 |
| $200 to $399 | 4,430,840 | 2,783,960 | 12.7 | 11.1 |
| $400 to $599 | 3,889,380 | 2,460,600 | 11.2 | 9.8 |
| $600 to $799 | 4,241,880 | 2,690,840 | 12.2 | 10.7 |
| $800 to $999 | 3,472,840 | 2,368,500 | 10.0 | 9.4 |
| $1,000 to $1,999 | 3,110,120 | 2,368,320 | 8.9 | 9.4 |
| $1,200 and over | 12,136,440 | 10,659,740 | 35.0 | 42.3 |

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[1] Source: U. S. Census, 1940, Population, The Labor Force (sample statistics), Wage or Salary Income in 1939, Table VII, p. 7.

*EXHIBIT V*

## Women's Bureau Bulletins Containing Information on the Responsibility of Employed Women for Family Support

| BULLETIN NO. | PUBLICATION DATE | TITLE |
|---|---|---|
| 74 | 1930 | The Immigrant Woman and Her Job. |
| 75 | 1929 | What the Wage-Earning Woman Contributes to Family Support. |
| 77 | 1929 | A Study of Two Groups of Denver Married Women Applying for Jobs. |
| 78 | 1930 | A Survey of Laundries and Their Women Workers in 23 Cities. |
| 88 | 1932 | The Employment of Women in Slaughtering and Meat Packing. |
| 92 | 1932 | Wage-Earning Women and the Industrial Conditions of 1930: A Survey of South Bend. |
| 117 | 1934 | The Age Factor as it Relates to Women in Business and the Professions. |
| 134 | 1935 | Summaries of Studies on the Economic Status of Women. |
| 148 | 1936 | The Employed Woman Homemaker in the United States: Her Responsibility for Family Support. |
| 155 | 1937 | Women in the Economy of the United States of America. |
| 164 | 1938 | Women in Industry: A Series of Papers to Aid Study Groups. |
| 168 | 1939 | Employed Women and Family Support. |
| 170 | 1939 | The Economic Status of University Women. |
| 183 | 1941 | Women Workers in Their Family Environment. |

*EXHIBIT VI*

## Statutory Liability of Married Women for Family Expenses

A. Civil provisions—

(1) Family necessaries and support of minor children: (19 States)

| | | |
|---|---|---|
| Arkansas | Pope's Digest (1937) | Sec. 6206. |
| California | Deering's Civil Code (1937) | Sec. 196. |
| Colorado | Statutes Annotated (1935) | Ch. 83, sec. 10. |
| Connecticut | General Statutes (Rev. 1930) | Sec. 5157.<br>Supp. 1935, s. 1596c. |

| | | |
|---|---|---|
| Illinois | Revised Statutes (1935) | Ch. 68, sec. 15. |
| Iowa | Code (1935) | Sec. 10459. |
| Louisiana | Dart's Civil Code (1932) | Art. 2435. |
| Massachusetts | General Laws (1932) | Ch. 209, sec. 7. |
| Minnesota | Mason's Statutes (1927) | Sec. 8620. |
| Montana | Revised Codes (1935) | Secs. 5790, 5784, 5833. |
| North Dakota | Compiled Laws (1913) | Sec. 4423,<br>Supp., Sec. 4414. |
| Oklahoma | Statutes (1931) | Sec. 1684. |
| Oregon | Code Annotated (1930) | Sec. 33-206. |
| Pennsylvania | Purdon's Statutes (1936) | T. 48, sec. 116. |
| South Dakota | Compiled Laws (1929) | Sec. 175. |
| Utah | Revised Statutes (1933) | Sec. 40-2-9. |
| Washington | Remington's Revised Stats. '32 | Sec. 6906. |
| West Virginia | Michie's Code (1937) | Sec. 4752 |
| Wyoming | Revised Statutes (1931) | Sec. 69-101. |

(2) Support of husband—if living with wife, is without property, and is infirm.

| | | |
|---|---|---|
| California - | Deering Civil Code (1937) | Sec. 176. |
| Idaho | Code Annotated (1932) | Sec. 31-916. |
| Montana | Revised Codes (1935) | Sec. 5802. |
| Nevada | Hillyer's Compiled Laws (1929) | Sec. 3378. |
| New Mexico | Statutes Annotated (1929) | Sec. 68-105. |
| North Dakota | Compiled Laws (1913) | Sec. 4409. |
| Ohio | Baldwin's Revised Annotated Code (1936) | Sec. 7995. |
| Oklahoma | Statutes (1931) | Sec. 1653. |
| South Dakota | Compiled Laws (1929) | Sec. 169. |

(3) Support of poor relatives:

Some States declare the liability for support of poor relatives by persons within named degrees of kinship, if of sufficient ability to help them.

NEW YORK STATE has the following provision:

"The husband, *wife*, father, *mother*, *grandparent*, *child* or *grandchild* of a recipient of public assistance or care *or of a person liable to become in need thereof* shall, if of sufficient ability, be responsible for the support of such person. *Stepparents* shall in like manner be responsible for the support of minor stepchildren." (Emphasis added). 1940 Laws, ch. 619, Sec. 101.

Method of enforcement - bond requirements - Idem, Sec. 102.

B. Penal provisions—

Several States have penal provisions applicable to both parents for abandonment of their minor children or failure to provide for them. Among these States are:

| | | |
|---|---|---|
| California | Penal Code (1937) | Sec. 270. |
| NEW YORK* | Penal Law | Ch. 41, Sec. 480. |
| Utah | Revised Statutes (1933) | Sec. 103-13-1. |
| Vermont | Public Laws (1933) | Sec. 3091. |
| Wyoming | Revised Statutes (1931) | Sec. 32-227. |

* NEW YORK'S statute provided that "A parent or other person charged with the care or custody for nurture or education of a child under the age of 16 years, who abandons the child in destitute circumstances and wilfully omits to furnish necessary and proper food, clothing, or shelter for such child is guilty of felony." Violator is subject to imprisonment or fine or both.

*EXHIBIT VII*

## *Employment of Telephone Operators by Marital Status* [1]

| Women by marital status and age | Telephone operators | |
|---|---|---|
| | Number | Percent distribution |
| Total women...................... | 189,002 | 100.0 |
| Single - Total ...................... | 99,278 | 52.5 |
| 14 to 24 ........................... | 42,776 | 22.6 |
| 25 to 34 ........................... | 31,221 | 16.5 |
| 35 to 44 ........................... | 16,604 | 8.8 |
| 45 and over ........................ | 8,677 | 4.6 |
| Married - Total - Husband present..... | 62,137 | 32.9 |
| 14 to 24 ........................... | 8,116 | 4.3 |
| 25 to 34 ........................... | 29,733 | 15.7 |
| 35 to 44 ........................... | 17,863 | 9.5 |
| 45 and over ........ ............... | 6,425 | 3.4 |
| Married - Husband absent ............ | 7,111 | 3.8 |
| Widowed or divorced ................. | 20,476 | 10.8 |

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[1] U. S. Census, 1940, Population, Vol. III, Part I, Table 68, p. 111.

Pidgeon

**Serial No. R. 1620**

[From the MONTHLY LABOR REVIEW (February 1944) of the Bureau of Labor Statistics, United States Department of Labor]

# Factors Determining Post-War Job Transfers and Unemployment[1]

THE background against which all estimates of demobilization period job transfers and unemployment should be developed is the record of changes in labor force, employment, and unemployment since before the war and the further changes in these totals that are expected to take place between now and the war peak. This background is presented in table 1, which shows in terms of main components—armed forces, industry groups, and the unemployed—how the labor force was distributed in July 1930 and July 1940, how the pattern changed each year thereafter down to July 1943 and, finally, the estimated pattern at the peak of the war effort. For purposes of the present analysis it has been assumed that the war effort will reach its peak in July 1944. This assumes victory over Germany during the summer or autumn of 1944, but implies no definite assumption with respect to the date of victory over Japan and the end of the war as a whole. Should the defeat of Germany occur before July 1944, downward revisions of some of the

TABLE 1.—*Estimated Distribution of the United States Labor Force, 1930–44*

| Classification | Estimated number (in thousands) | | | | | |
|---|---|---|---|---|---|---|
| | July 1930 | July 1940 | July 1941 | July 1942 | July 1943 | July 1944—Assumed to be peak war effort[1] |
| Total labor force | 50,053 | 57,400 | 58,300 | 60,600 | 64,800 | 66,300 |
| Unemployed[2] | 3,253 | 9,300 | 5,700 | 2,800 | 1,200 | 1,000 |
| Total civilian employed, plus armed forces | 46,800 | 48,100 | 52,600 | 57,800 | 63,600 | 65,300 |
| Armed forces[3] | 263 | 500 | 1,700 | 3,800 | 9,300 | 11,300 |
| Civilian employed | 46,537 | 47,600 | 50,900 | 54,000 | 54,300 | 54,000 |
| Agricultural employment[4] | 12,193 | 10,800 | 10,700 | 11,700 | 12,100 | 12,000 |
| Nonagricultural employment[5] | 34,344 | 36,800 | 40,200 | 42,300 | 42,200 | 42,000 |
| Nonagricultural employees[6] | 28,517 | 30,638 | 34,939 | 37,234 | 38,364 | 38,600 |
| Manufacturing | 9,005 | 10,411 | 13,087 | 14,641 | 16,136 | 17,200 |
| Metals, chemicals, and rubber | (7) | 4,114 | 5,822 | 7,481 | 9,207 | 10,300 |
| Other | (7) | 6,441 | 7,265 | 7,160 | 6,929 | 6,900 |
| Mining | 966 | 907 | 961 | 923 | 830 | 800 |
| Construction | 1,718 | 1,660 | 2,100 | 2,108 | 1,218 | 500 |
| Transportation and public utilities | 3,675 | 3,059 | 3,362 | 3,519 | 3,683 | 3,700 |
| Trade | 6,025 | 6,462 | 6,837 | 6,504 | 6,290 | 6,200 |
| Finance and service | 3,982 | 4,140 | 4,300 | 4,335 | 4,359 | 4,300 |
| Government | 3,146 | 3,999 | 4,292 | 5,184 | 5,848 | 5,900 |
| State and local | (7) | 3,068 | 3,040 | 2,996 | 2,962 | 2,962 |
| Federal | (7) | 931 | 1,252 | 2,188 | 2,886 | 2,938 |
| Balancing item[8] | 5,827 | 6,162 | 5,261 | 5,066 | 3,836 | 3,400 |

[1] Estimates of peak war requirements prepared jointly by the Bureau of Labor Statistics and the War Manpower Commission.

[2] 1930 from National Industrial Conference Board; 1940–43 from Bureau of the Census.

[3] 1930 from Bureau of Labor Statistics; 1940–43 from joint estimates of the Bureau of Labor Statistics and the War Manpower Commission.

[4] 1930 from Bureau of Agricultural Economics (average of estimates for July 1 and August 1); 1940–43 from Bureau of the Census.

[5] 1930 from Bureau of Labor Statistics; 1940–43 from Bureau of the Census.

[6] Nonagricultural employees and components exclude proprietors, self-employed, and domestic servants; 1930 from Bureau of Labor Statistics unrevised series; 1940–43 from Bureau of Labor Statistics revised series.

[8] Difference between estimates of total nonagricultural employment and estimates of nonagricultural employees. Includes proprietors, self-employed, and domestic servants, but is not an accurate measure of this group.

[7] Not available.

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[1] Prepared by the Bureau of Labor Statistics for the Subcommittee on War Contract Termination of the Senate Committee on Military Affairs.

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figures in the final column of the table will be necessary to make them correspond to actual peak totals.

The volume of job transfers that will be necessary as the result of termination of the war, and the amount of unemployment that will develop in this connection, will depend essentially on four factors: (1) Demobilization of the armed forces, (2) demobilization of war industry, (3) withdrawals from the labor force, and (4) reconversion and expansion of civilian production.

The number of new job applications will depend on the first three of the four indicated factors, plus intra-industry turnover.

The amount of unemployment at any given date after the war peak will depend on both the amount and the timing of the changes under the four indicated headings.

## *Extent of Forces to be Demobilized*

### DEMOBILIZATION OF THE ARMED FORCES

The number of persons in the United States armed forces in July 1940, was half a million. It has been announced that at their peak the armed forces will total 11.3 million. If this figure is reached, and if the post-war armed force is no larger than the 1940 force, well over nine-tenths of the men in uniform at war peak will be mustered out—some of them, it may be, before Japan is defeated—and will then be either looking for work or going back to school. However, it is likely that a larger armed force than this country had in the pre-war period will be maintained for purposes of post-war defense, in which case the volume of military demobilization will be reduced accordingly. For example, if the post-war armed force in all branches of the service

TABLE 2.—*State Origins of Armed Forces at War Peak*[1]

[Estimated total for July 1944 distributed on same basis as total number of men furnished to armed forces to September 15, 1943]

| States | Number of men (in thousands) | Percentage distribution | States | Number of men (in thousands) | Percentage distribution |
|---|---|---|---|---|---|
| United States | 11,300 | 100.0 | Montana | 45 | 0.4 |
| Alabama | 203 | 1.8 | Nebraska | 102 | .9 |
| Arizona | 45 | .4 | Nevada | 11 | .1 |
| Arkansas | 147 | 1.3 | New Hampshire | 45 | .4 |
| California | 667 | 5.9 | New Jersey | 418 | 3.7 |
| Colorado | 90 | .8 | New Mexico | 45 | .4 |
| Connecticut | 170 | 1.5 | New York | 1,265 | 11.2 |
| Delaware | 23 | .2 | North Carolina | 260 | 2.3 |
| District of Columbia | 79 | .7 | North Dakota | 45 | .4 |
| Florida | 158 | 1.4 | Ohio | 610 | 5.4 |
| Georgia | 226 | 2.0 | Oklahoma | 192 | 1.7 |
| Idaho | 34 | .3 | Oregon | 102 | .9 |
| Illinois | 700 | 6.2 | Pennsylvania | 904 | 8.0 |
| Indiana | 271 | 2.4 | Rhode Island | 68 | .6 |
| Iowa | 192 | 1.7 | South Carolina | 136 | 1.2 |
| Kansas | 147 | 1.3 | South Dakota | 45 | .4 |
| Kentucky | 215 | 1.9 | Tennessee | 237 | 2.1 |
| Louisiana | 192 | 1.7 | Texas | 554 | 4.9 |
| Maine | 68 | .6 | Utah | 45 | .4 |
| Maryland | 170 | 1.5 | Vermont | 23 | .2 |
| Massachusetts | 418 | 3.7 | Virginia | 215 | 1.9 |
| Michigan | 452 | 4.0 | Washington | 158 | 1.4 |
| Minnesota | 215 | 1.9 | West Virginia | 170 | 1.5 |
| Mississippi | 158 | 1.4 | Wisconsin | 237 | 2.1 |
| Missouri | 305 | 2.7 | Wyoming | 23 | .2 |

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[1] Data furnished by Selective Service System, based on local board inventory.

for purposes of policing, etc., numbers 2.5 million, somewhat under four-fifths of the peak force will be demobilized.

Table 2 shows the estimated State origins of the armed forces at war peak, and thus provides a basis for calculating the approximate impact of military demobilization on the labor force in each State under any given assumption regarding the size of the armed forces to be retained in the post-war period.

## DEMOBILIZATION OF WAR INDUSTRY

Workers will be laid off in three situations: (1) Many munitions manufacturing plants will close down. (2) This will adversely affect employment in underlying industries supplying raw materials, transportation, etc., until civilian production picks up. (3) In some communities that have been dependent on munitions production there will be lay-offs in stores, restaurants, and service industries. Beyond this inevitable curtailment, it must be noted that high wages derived from war production have helped to support the production of goods and services for civilian use, and that the prospect of a relatively high level of national income is essential to the maintenance of this employment.

The amount of manufacturing employment resulting from the munitions program may be estimated in two ways. At the peak of the war effort some 5 to 6 million workers will be engaged in the final stages of producing combat matériel (including in this category ordnance, ammunition, aircraft and aircraft parts, and naval and merchant ships). This does not count the workers producing raw and semifinished materials, equipment, and supplies that now go into munitions but also have peacetime uses. Alternatively it may be noted that, in 1940, just over 4 million persons were employed in the metal, chemical, and rubber manufacturing industries. At that time the end product of their labors had peacetime uses. At the peak of the war effort the number will be about 10.3 million; and whether or not they are engaged in making essentially the same product as in peacetime, it flows finally into combat matériel. The difference of about 6 million indicates the net number of workers who would be displaced if munitions orders were wiped out and industry reverted to 1940 civilian volumes in these fields.

Most of the 5 or 6 million engaged in the final processing of combat matériel will have to find work on other items. To a limited extent they may be kept on jobs after hostilities cease, in order to complete work on orders for goods that have a peacetime use, as for example Victory ships to replace slow Liberty vessels and the trucks and other equipment needed for rehabilitation of destroyed areas abroad. It may also be necessary to employ up to a million people in the metal, chemical, and rubber industries (including about half this number in the final fabrication of munitions) to maintain an armed force of 2.5 million with modern equipment.

In the first instance, however, cancelation of war contracts will affect not only those directly engaged in the manufacture of munitions but the larger number engaged in producing raw materials, etc. How many of them will be laid off will depend upon how quickly producers of civilian items are able to place orders. In this sense, therefore, the extent of demobilization depends upon the rate of reconversion. In minimum terms, lay-offs on war contracts will involve some 5 million workers; the maximum, having regard to the substitution of civilian contracts for war orders, should be substantially less than 10 million.

It should be noted that the above figures refer to the curtailment of the munitions segment of manufacturing proper. Obviously the war has also brought about an expansion in some of the other components of nonagricultural employment, notably in Government and to a lesser extent in transportation and public utilities. Government, for example, has added some 2 million employees to its civilian pay rolls since 1940 as the result of the demands placed on navy yards and Government manufacturing arsenals, other branches of the War and Navy Departments, and other war agencies of the Federal Government; the basis for much of this employment, too, may be expected to disappear when the war ends.

## *Size of the Post-War Labor Force*

In the United States the labor force grows from year to year in response to the growth of population of working age. Thus, from 1930 to 1940 the labor force increased by a little more than 7 million. Had there been no change in trends we would have expected to find 59.1 million either at work or looking for work in July 1943 and 59.8 million in July 1944. Actually there were 64.8 million in the labor force in July 1943 and there will be need for 66.3 million in July 1944.

### SOURCES OF ADDITIONAL WARTIME LABOR

How many workers are likely to withdraw from the labor force? The number will obviously influence the amount of unemployment.

Before this question can be answered it is necessary to ask whence these extra workers have come. This can be most easily described not with July data, when schools are usually closed, but with figures for October 1943. At that time there were 5.8 million extra people in the armed forces or the labor force. They came from the groups shown in table 3.

TABLE 3.—*Sources of Recruitment of Additional Wartime Labor, by Age, Group, and Sex*

| Source of added workers | Age group | Number (in thousands) of— | |
|---|---|---|---|
| | | Males | Females |
| All sources | | 3,224 | 2,570 |
| Schools primarily | 14–19 years | 1,611 | 746 |
| Colleges primarily | 20–24 years | 497 | 145 |
| Nonworkers primarily | 25–34 years<br>35–64 years | 665 | 96<br>1,460 |
| Retired primarily | 65 years and over | 451 | 123 |

### PROBABILITIES OF LABOR-MARKET WITHDRAWALS, BY AGE GROUPS

The extra males 25–64 years of age are likely to disappear from the labor market whenever it becomes hard to find work or to hold a job. At these ages almost all men are normally compelled both by economic necessity and by custom to have a job or to look for work. There are some who cannot work. A certain number, however, prefer not to work or are unwilling to expose themselves to the rebuffs of the labor market, and in periods of depression a large proportion of this group become convinced that they are unable to work. It is from among these that some 665,000 extra males have been recruited. They are likely to disappear from the labor market again.

The extra males and females 65 years of age and over consist both of workers who have been called back from retirement and of those who have postponed their retirement. With an established system of old-age insurance and old-age assistance, a large proportion of these workers will normally retire. To the extent that provisions for retirement are extended or liberalized, their withdrawal from the labor market will be hastened. These 574,000 extra workers are not likely to remain long in the labor force.

It is noteworthy that the number of females 20–34 years of age in the labor market is little greater than normal. At these ages it is almost as usual for unmarried women to work as it is for men. Therefore there was not a large number of women without domestic responsibilities from among whom recruitment was possible. At these ages also married women are most likely to be rearing children. This group, more than any other, finds difficulty in taking jobs. The members of the group are likely to be among the first to withdraw when the patriotic appeal to work ceases, when the possibility of normal family living is restored, or when it is no longer so easy to find high-wage employment as it is today.

The problem of withdrawals from the labor force is therefore largely confined to two groups: young persons of school and college age and women 35–64 years of age.

*Withdrawals of young people.*—The larger of these groups consists of young people. With respect to them it is wise to think of the problem as one of reducing the size of the labor force. This does not necessarily require the withdrawal of any of those now working. Sooner or later virtually all of them, male and female, would have sought work. What has happened is that, voluntarily or otherwise, boys 18 years or younger went into the armed forces, some of whom would normally not have quit school or college until they were 19, 20, or 23. Boys and girls of 16, 17, or younger ages quit school to take jobs. Some of them have now passed the age at which they would normally have left school and have become a more or less normal part of the labor force, but the labor force is continually refreshed by fresh recruits who are leaving school prematurely. Within this group are 2.8 million who normally would still have been in school but are now at work or in the armed forces. Many will prefer in any event to keep on working. This may be especially true of girls who normally take jobs between school and marriage, and who may see little long-run advantage in going back to school.

Even if none of these individuals, male or female, chooses to go back to school, this segment of the labor force can, however, be reduced to approximately normal proportions within 1 or 2 years by inducing young people who are in school when hostilities cease, to stay in school as long as their brothers and sisters did in 1940, instead of leaving at as early an age as is customary today. If this is the only method used to return this segment of the labor force to normal size, it will mean that, especially during the critical conversion period, there will be several million extra workers in the labor market.

It will, thus, be important to induce as many withdrawals as possible by encouraging the maximum number of these young persons to return to school or college. This effort may be especially successful among young men in the armed forces, for they were not choosing jobs in preference to school. Obviously, the extent of withdrawals of younger persons to complete their general education or to acquire special training will depend on a number of factors about which positive statements cannot be made at this time. In particular, it will depend on the effectiveness with which our educational institutions enlist the interest of young persons who have been through war experiences, on the steps taken by Government to create educational opportunity for all young persons through the provision of financial assistance where that is necessary, and on the extent to which all young persons are now made aware of their probable need of further formal education. If young persons could be induced to regard this as a period when their services are more needed, and when many of them have a better opportunity to make large earnings, than will be the case 2 years hence—in other words to view the war and transitional period as an abnormal timing of education and practical experience—it might help to stimulate their return to school. Perhaps this campaign needs to be directed, above all, to the half million or more children of 14 and 15 who have taken jobs and may be permanently handicapped if they do not get more formal training.

*Withdrawals of women.*—Although the pressure in the labor market of large numbers of young persons who would normally have continued in school will swell the number of job seekers in the transitional period, the extra number of women 35 years of age and over who are now working will contribute somewhat to a permanent increase in the labor force. This group, now numbering a million and a half, and which may number 2 million by the peak of the war effort, is composed about equally of women under and over 45. It may be noted that of the present unusual supply of a million and a half, at least half a million are engaged in farm work and will probably leave the labor market as soon as the farms can be operated without their services as agricultural workers. Furthermore, there is some evidence that an especially large proportion of extra female workers 35 to 44 years of age are farm workers. Between April and October 1943 (the only dates for which data are available) almost all of the increased employment of women in these age groups occurred on farms. Thus, if we assume that there are today about a million more women 35 years of age or over in nonagricultural employment or looking for such work than would normally be the case, it is probable that about three-fourths of them are 45 years of age or over and that of this total comparatively few have children less than 14 years of age. It is almost certain that at least a few hundred thousand of these women will continue in the labor market. It is almost equally certain that this more or less permanent expansion of the labor force will not total as much as one million.[2]

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[2] No allowance has been made in this discussion for battle casualties. The number of individuals who will be killed or so seriously disabled as to prevent their working cannot be estimated. Heavy casualties would affect the population distribution by age and sex, and the number of male workers. They would also result in relatively large numbers of single women and widows of young ages. Such women normally work, whereas married women normally do not work. Thus, the effect of heavy battle casualties will be to reduce the number of male workers and increase the number of female earners. The net reductions of the labor force would be much smaller than the number of battle casualties.

## *Reconversion and Expansion of Civilian Production*

The rate at which reconversion and expansion of civilian production will proceed, as well as the levels that will be reached at any given date, can obviously not be predicted with assurance. Reconversion in the broad sense not only involves the retooling of plants, which probably need not require more than 6 months under favorable circumstances in any of the main industries affected and in most industries will require much less time than that, but also involves the reassembling of materials and skilled labor, the rescheduling of production, and the rebuilding of distributive organizations.

It can probably be said with assurance that, as far as purely physical limitations are concerned, our economy could reconvert and reach full-employment levels of peacetime production within 12 to 18 months after the end of the war, even assuming that the war ended simultaneously in both theaters without any tapering-off of war production before final cessation of hostilities. It follows that there is no purely physical reason why full employment on a peacetime basis should not be achieved in a still shorter period if considerable reconversion takes place during the Asiatic phase of the war, following a prior defeat of Germany. By way of illustration, a reduction of 50 percent in munitions production in the Asiatic phase of the war, coupled with a simultaneous demobilization of, say, 3 million from the armed forces, might make it physically possible to reach full civilian production and employment in less than a year after the defeat of Japan.

It is clear, however, that the actual rate of reconversion and resumption of civilian production will be determined not solely by physical limitations but also by considerations growing out of and in turn affecting the general economic climate or environment, such as the policies adopted by the Government and the expectations and actions of industry. Thus, it is impossible to say that full peacetime employment will have been reached as of any specified date. Though it is probable that 1940 levels of production will be exceeded in a post-war year such as 1946 or 1947, even this cannot be said to be a certainty. If 1940 levels are not exceeded, the larger labor force and increased productivity of the post-war period will raise unemployment above the 1940 volume, which was 9.3 million in July and averaged 8.1 million for that year. However, the accumulation of deferred demand and liquid savings and the reduction of private indebtedness during the war create so strong a presumption in favor of rapid expansion of our civilian economy, or at least of large segments of our economy such as construction and the industries manufacturing consumer durable goods, that it is doubtful that there will be anything like this amount of unemployment 2 years after the close of hostilities.

The problem is rather one of how much unemployment there will be during the transitional period and of how well demand will be sustained later. The first depends in large part upon the policies developed to settle the disposal of Government-owned war plants and surplus stocks of war goods, including equipment that will have to be moved out of the way to make room for other machinery, the speed of settlement of war-contract obligations, tax policies directly affecting business, and the adequacy of capital and credit facilities, including facilities available to small business units.

The immediate rate of reconversion, and even more the longer outlook, depends on other factors as well. The spending of war savings to satisfy deferred demands will depend partly upon the confidence which workers feel in the rate of recovery. If they hold their savings against the day they may become unemployed, it will seriously retard recovery. Business plans will also be affected, because if businessmen anticipate nothing more than a temporary boom, they are not likely to engage in as large a capital-investment program as would be necessary to meet the needs of a working population of 54 or 55 million people. Furthermore, the rate of capital investment is likely to depend on what action may be taken by the Federal Government to prevent the development of disruptive price inflation during the transitional period when purchasing power still remains in excess of goods. If inflation occurs and businessmen expect a later deflation, they will hesitate to invest in plants or equipment or to build houses for sale or rent. Again, one cannot forecast how well demand can be sustained past the first period of probable post-war boom, without some knowledge as to how income is to be distributed and what controls are to be invoked by the Federal Government to check monopolistic restrictions on production.

### *Post-War Employment in Relation to Timing Factors*

The above analysis of reconversion and expansion of civilian production indicates some of the timing factors upon which the general level of employment as of any given post-war date will depend. That level, however, will also depend on the timing of military and industrial demobilization and, further, as far as the total of all jobs is concerned, on the development of public-works programs. After World War I, over 95 percent of our army was demobilized in 10 months. This included bringing nearly 2 million members of the A. E. F. home from overseas. Military demobilization at the end of the present war will no doubt require the transportation of a much larger force back from foreign areas, and some of these men will have to be carried much greater distances. However, we now have the shipping and air transport facilities to enable us to bring home more men in less time than in 1918–19 if considerations of policy do not dictate a more gradual demobilization. How rapidly our overseas force is brought back to the United States and how soon our whole armed force is reduced to its normal post-war level will therefore depend in large part on policy decisions taken after weighing on the one hand the strong desire of the men to be demobilized quickly and on the other hand the difficulties that may result from mustering men out of service before there are jobs available for them.

Industrial demobilization will presumably take place with great rapidity after hostilities have ceased, in view of the ample munitions stocks on hand and the need to clear the road for peace production. Here too, however, the outcome will to some slight extent at least be determined by general policy considerations, since the shipbuilding program may be cut back over a shorter or a longer period and since Government contracts in a limited number of other fields might be gradually tapered off in order to secure additional output for such purposes as foreign relief and rehabilitation.

Finally, the level of unemployment as of any given date will depend not only on the interaction of all these elements, but on the timing of withdrawals from the labor force as well. Seasonal factors, such as the relation of Armistice Day to the beginning of the normal school term, will probably have some effect in this connection. A number of persons who do not intend to remain in the labor force may delay formal withdrawal until they have obtained the unemployment-compensation benefits to which they are entitled; consequently, current unemployment records may slightly overstate the real unemployment problem in the early months of peace.

With respect to timing, two hypothetical situations need to be considered: (1) The simultaneous end of hostilities against Germany and Japan; (2) the end of hostilities against Germany 12 months or more before the war against Japan is concluded.

The original analyses of the problem, carried through by the Bureau of Labor Statistics, were made on the assumption that the military economic effort would be sustained to the end, either because the United States was at war with both belligerents or because it chose to maintain maximum pressure against the remaining belligerent. Under these conditions it was impossible to visualize any other than a period of serious transitional unemployment, reaching maximum intensity 6 to 9 months after the end of hostilities. The maximum number unemployed at any one time might not have been greater than in the latter part of 1940, say 7 million, and might have been as much as 12 million or so. Which was the more probable no one could say without knowledge of certain timing factors. It was certain that it was technically impossible to reestablish civilian employment as rapidly as demobilization would have to take place. The Bureau attempted, therefore, not so much to estimate the volume of unemployment as to determine the points at which control could be exercised to keep down unemployment.

Today it appears probable that the war against Germany will end first and will result in a cut-back of production. This presents an entirely different problem from that raised by complete cessation of hostilities, for it opens the possibility of reducing war production gradually. After hostilities cease entirely, it will not be possible to taper off any substantial part of war production. Obstacles to such a gradual reduction exist even if hostilities are continuing on a large scale in some theater, but one can at least explore the possibility of—

1. Estimating total needed war matériel;
2. Determining which types of war matériel can be produced in advance of need, without undue danger of loss through spoilage and obsolescence;
3. Scheduling total munitions production at something like peak volume for the first month, tapering rapidly to the necessary average monthly production, and finally drawing goods from accumulated stores.

To date we do not have enough information from military authorities and the War Production Board to determine what is in fact likely to happen, nor is it known whether a production program such as is indicated is consistent with the uncertainties that attend the making of war plans. We will never know exactly how long the war is going to last, or exactly how much force has to be brought to bear against the enemy. Thus, any tapering scheme would presuppose that the industrial machine was left in condition to pick up munitions production almost overnight, in the event that original forecasts underestimated Japanese strength. In any event our object should certainly be to seek to reduce wartime dislocations to a minimum before the end of the war with Japan.

No estimate at all can be made of the probable volume of unemployment during the period of a war with Japan alone. Locally severe unemployment will be experienced in some centers when war contracts are terminated. The problem in this period is likely to be that of getting people out of congested war centers and into employment in nonwar industries and perhaps in other places, rather than that of large-scale, Nation-wide unemployment. It would probably be a mistake to try to avoid local unemployment of the sort forecast, because it is precisely during this period that the best opportunity is offered of avoiding the development of what will, after the war, become stranded areas. We do not know how quickly people will be willing to move to places where jobs do exist.

### *"Gross" and "Net" Labor Turnover*

To the extent that these comments throw light on the number of persons who will be mustered out of the armed services or dismissed from war industry, and who then will not wish to withdraw from the labor force but rather will wish to find new employment, they provide a basis for calculating the "net" number of job transfers, or at any rate of job applications, that will result from the demobilization process. The actual amount of labor turnover, however, will be very much greater than is indicated by calculating "net" contractions and expansions in major components of the labor force on a broad national basis. Available statistics of past and current rates of labor turnover in selected industries provide no real clue to the extent to which interplant transfers within a given industry and transfers that cancel out between industries will increase the "gross" turnover after the war, because the statistical record is incomplete and because the situation in the demobilization period will in any case be without precedent. But, although precise measurement is impossible, it can be safely assumed that the total or "gross" number of job applications and job transfers will be several times as large as the "net" turnover, particularly in view of the tremendous local and interstate population movements that can be expected, following those which have occurred in response to the demands of war.

Suppose for instance, a private comes out of the Army and gets his former job back in an automobile company in Detroit, replacing an older civilian without job seniority who moved to Detroit, after the attack on Pearl Harbor, to work on tank assemblies. The latter goes home to Grand Rapids and, after some difficulty, obtains a job with a company making furniture—which displaces a woman worker, who then applies for a job as a teacher. Shortly afterward, however, the civilian decides to leave Grand Rapids and become a salesman for a household-equipment company whose head office is in Los Angeles. Meanwhile an ex-teacher and an ex-salesman may be taking jobs with a furniture manufacturer in New York. This is the kind of thing that will obviously be happening all over the country.

It may therefore be emphasized, in conclusion, that an enormous load will be thrown on the U. S. Employment Service in the near future—a load not adequately measured in terms of expected military and industrial contractions, large as the latter magnitudes loom in themselves. It is impossible to contemplate this prospect without coming to the conclusion that, whatever other policy decisions are reached by the Congress with respect to the solution of demobilization problems, the welfare and happiness of the American people will be greatly promoted if steps are taken to strengthen the U. S. Employment Service before demobilization is upon us.

U. S. GOVERNMENT PRINTING OFFICE: 1944

Women Industrial Workers

Return to

1320

# WOMANPOWER

## CIVILIAN PERSONNEL PAMPHLET / NO. 20

# WOMAN/POWER

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# MEMORANDUM FROM SECRETARY OF WAR TO COMMANDING GENERALS OF THE ARMY

August 14, 1942

Women are now working in practically all War Department activities, including our depots and arsenals. They are producing and assembling guns, tanks, bombs, and planes. They are running fifteen-ton cranes and operating machines which have as many as thirty-nine separate machining operations. They are driving trucks, riveting airplane wings, welding frames, and doing hundreds of other mechanical, clerical and supervisory jobs. Because they are filling these jobs, thousands of men have been released by the War Department to serve in the armed forces and in other vital war production operations.

The results of their efforts have admittedly exceeded all expectations. It has been definitely established that women possess certain aptitudes and traits to a degree which makes them outstanding employees in occupations which were formerly regarded as man's work. They have proved particularly adept in those occupations requiring finger dexterity, and great attention to detail. A very large percentage of the skilled and semi-skilled occupations in the War Department require these very traits and aptitudes.

The ability, the spirit, and the determination which women war workers have already shown can leave no doubt of the part which they are playing and will play in this war. War Department employing and training officers must take the necessary steps to fully utilize, immediately and effectively, the largest and potentially the finest single source of labor available today—the vast reserve of women power.

It is the policy of the War Department to use women employees in all capacities for which they are qualified or may become so by training. As far as practicable, women will be employed in preference to men of war service age or capabilities. Nothing in the application of this policy will operate to limit the employment of qualified men who are ineligible for military service by reason of age or physical disability.

Henry L. Stimson

**SECRETARY OF WAR**

## WAR DEPARTMENT, WASHINGTON, D. C.

15 August 1945

The general and specific findings presented in this pamphlet are based upon the knowledge gained from several years of hiring, training and supervising industrially inexperienced women. Although conceived and written in retrospect, it is nevertheless dedicated to forward-looking action—a still greater use of women in industry. They are needed. The war is not yet won.

Secretary Henry L. Stimson's memorandum of 14 August 1942 that the Department must "fully utilize... the vast reserve of womanpower" was as wise as it was foresighted. The Department's experience indicates that in war as in peace, women can stand shoulder to shoulder with men as competent productive members of an industrial society.

From this experience of the Department in the employment of women one fact stands out most clearly: As with a male working force, sound personnel management is the keystone of production.

Much of the success with War Department womanpower can be attributed to the intelligent application of sound management principles by supervisors and executives, assisted capably by leadership from civilian personnel officers at station levels and at intermediate commands. Particularly significant was the emphasis and direction given by the commanding generals of the Forces and their headquarters civilian personnel staffs. Acknowledgment is made also to Mrs. Warwick B. Hobart, Advisor on the Employment of Women, for the stimulus she provided to the War Department as a whole in expanding the employment and full utilization of womanpower, and for the preparation of all the material in this pamphlet.

By the authority of the Secretary of War:

OFFICIAL:

**Edward F. Witsell**
*Major General*
*Acting The Adjutant General*

Wm H. Kushnick
*Director of Civilian Personnel*
*and Training*

# FOREWORD

As the spearhead of the nation's war effort the War Department has become the world's largest employer of women. All over the country in the thousand and more war plants owned and operated by the Department women have been put to work on a scale never before dreamed. Of the 1,200,000 civilian employees of the Department engaged in war work approximately 45 percent—half a million—are female.

These War Department woman war workers represent only a portion of the millions of women throughout the country that have answered the summons of a free nation at war to maintain its way of life. With 12,000,000 actual and potential American workmen inducted into the armed services, the country's labor force would have been crippled, perhaps disastrously, had not women risen to the emergency.

How many men these women released for front-line fighting cannot be authoritatively estimated. The number if totaled would certainly equal whole armies.

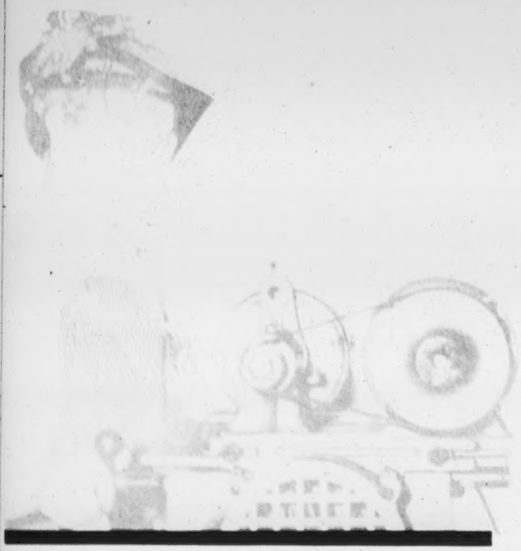
War Department womanpower has been recruited from all walks of life, from all parts of the country, from all classes. Ages range from 16 to 70. More than half are married and have children.

The hiring and training of these women, many industrially inexperienced, was a stupendous task. The Department faced a new and unknown series of problems in large-scale employment of women performing traditionally male jobs.

Although many of the problems remain only partially solved, the Department can report success in coping with the task as a whole. The experience is worthy of publication. Judicious application of the information gained can marshall still more effectively the womanpower resources of the Nation. The fullest possible wartime utilization of women workers is universally accepted War Department policy. (See Appendix A, Memorandum of August 14, 1942, by Secretary of War Henry L. Stimson.)

What kind of industrial work do War Department women do? Nearly all types, from common labor to delicate scientific operations. War Department experience indicates that 80 percent of the industrial jobs once performed only by men can be filled by women. Mechanics? Yes. Electricians? Yes. Welders? Of course. Crane operators, boring mill operators, millwrights? Plasterers, plumbers, shoemakers? Yes; and dozens of other jobs once considered a closed preserve for the male worker. (See Appendix B, Industrial Jobs Performed by Women in the War Department.)

## FOREWORD (CONTINUED)



In general, women were found most satisfactory in jobs requiring dexterity, precision, repetition and attention to detail. In jobs that required great strength, however, women were at a disadvantage. And, although available medical evidence does not show that the health or efficiency of women is lowered by exposure to extreme temperatures, toxic substances or noxious odors, War Department experience indicates that employment of women on such jobs has not had general success.

The pamphlet attempts to summarize, for the benefit of War Department officers and officials, what has been learned from day-to-day experience. Also presented are general principles and practices reported useful by War Department establishments or considered desirable as a result of evaluation of statistical studies and other evidence where available. As such it is a combination of the empirical and the ideal; a serious endeavor, based on a mixture of fact and the best opinion available, to comprehend both today's war compulsion and tomorrow's continued need of open-minded personnel management.

It is to be emphasized that the observations in this pamphlet do not have in mind the office and other white-collar jobs so long and so capably occupied by American women.

Personnel specialists reading the pamphlet will think, again and again: "This particular practice is merely sound personnel management, applicable to all employees whether male or female." Very true; the fact of the matter is, employment of women on a large scale in male industrial jobs has brought into still sharper focus the need for good personnel management.

The recruitment of this army of industrial women workers for the War Department's establishments throughout the country is a tale of epic proportions, a drama filled with the deepest human emotions.

For the purpose of this pamphlet, the story must remain prosaic. It was early evident that ordinary recruiting channels would not suffice to reach the large numbers of women needed in the war effort. The first problem was that of persuading or inducing many women to enter war work at all, especially industrial work.

Only through the wholehearted cooperation of the country and active public support was the Department able to achieve its goal, in hiring women.

War Department recruitment campaigns were based primarily on patriotism—on an appeal to the women to sacrifice some of their home interests to the war effort. They emphasized the vital need for industrial workers, the dignity of labor and the chance to join in community effort to meet that need without importing outside labor.

Secondarily, the campaigns made a point of publicizing whatever attractions—in working or living conditions; special housing, eating and transportation facilities; recreation, child care and school and shopping facilities—that the particular War Department installation or installations offered to employees.

Because of the stark isolation of many Department industrial establishments, built for war purposes far from urban conveniences and facilities, the Department was compelled to set up and provide many of those necessities of the average American inhabitated community. In many cases the conveniences, scientifically planned and modern in thought and design, were superior to those in their home communities. Recruitment people stressed these advantages.

On the other hand, even where the Department's industrial establishments were in the cities, and the converse of isolation was the case, many similar needs had to be met. Decent housing, transportation and other necessities of the worker had to be provided to keep the wheels of the war effort constantly turning.

Cooperating in these recruitment campaigns were the Civil Service Commission, War Manpower Commission, Chambers of Commerce, trade and civic associations, the Council of National Defense, women's clubs and private industry.

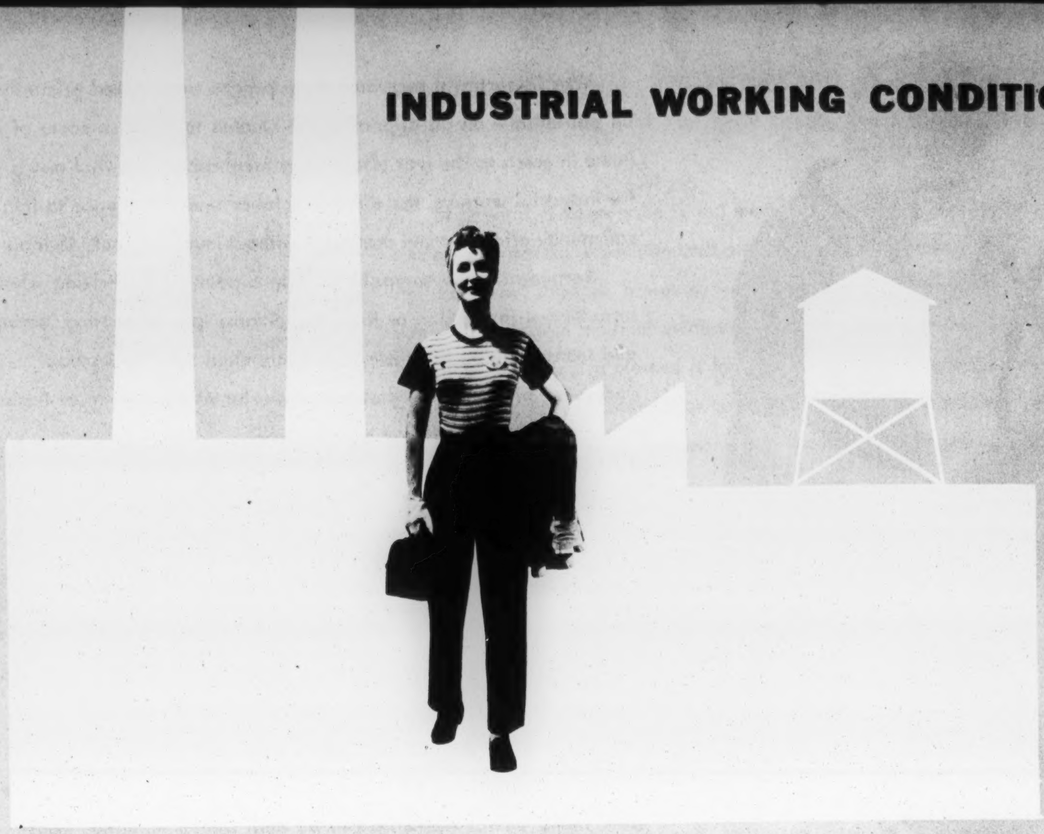
The Department depended on these organizations and general public assistance, in using display ads, billboards, street car and bus advertising, movie and radio appeals, store window displays, demonstration centers showing women actually at work on various machines, sound trailers and public rallies.

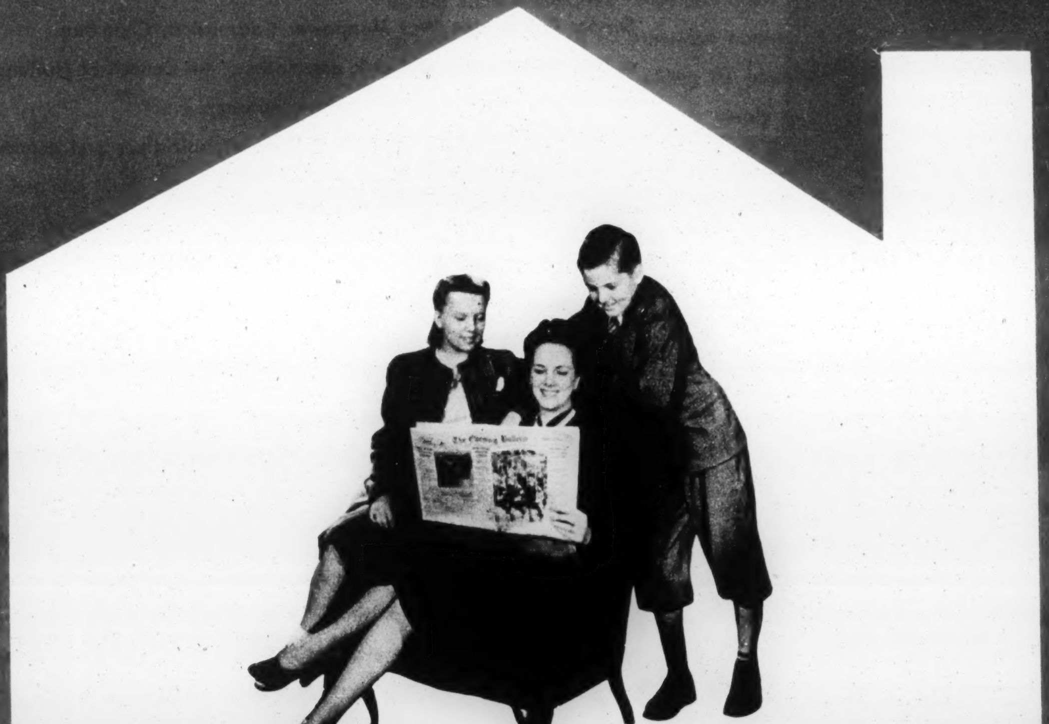
House-to-house canvassing in the neighborhood of the plant was also used, and employees were urged to enlist the interest and services of their friends and acquaintances.

War Department recruiting teams, whether working independently or in cooperation with other organizations, reported that in the long run the best inducement in recruiting female industrial workers was the plant's reputation for being "a good place to work."

No simpler phrase than that—"a good place to work"—can be devised to describe the effectiveness, and the great need, of sound personnel management, for both male and female employees.

# INDUSTRIAL WORKING CONDITIONS





## EMPLOYEE SERVICES

The War Department's experience in employing hundreds of thousands of women in war plants throughout the country has underscored a fact not to be dismissed lightly by industrial management: That women workers customarily have a double responsibility—their job, and the home, also.

Married women with children have heavy responsibilities at home that must be met either before or after a full day's work on the job. About 60 percent of the female war workers hired by the Department were married and had children.

Even the single young women, if not living at home with an obligation to another member of the family and a share of the total woman's work in the home, usually washed their own personal clothing, did a little room cleaning and perhaps even some cooking.

This dual responsibility emphasized the need for adequate employee services as an enlightened management's contribution to the well-being and efficiency of the Department's female working force.

The provision of such employee services has been one of the major problems of War Department installations employing women. The need ranged from a full roster of employee services in isolated areas to cooperation with community agencies in towns and cities.

Out of trial-and-error day-by-day experience with this problem of employee services have arisen rather well defined patterns of requirements.

The most needed services, it appeared, were restaurant and housing facilities, recreational opportunities, child care and personal counsel to individuals requiring advice and assistance.

## RESTAURANT FACILITIES

Studies have revealed that many women newly introduced to industrial routine have a tendency to eat an inadequate breakfast or omit it entirely, to resort to a snack as a substitute for a full meal and to disregard ordinary diet rules necessary to health and strength.

These eating irregularities appeared to contribute greatly to fatigue or ill health that led to absenteeism and ultimately to quitting the job. When adequate nearby restaurant facilities were provided at War Department installations, this tendency was substantially reduced.

Self or cafeteria service was common.

The cost of meals was important. The standard low-priced complete luncheon induced many women to get a full meal instead of "a sandwich and a Coke." A standard luncheon usually consisted of an entree, two vegetables, milk, tea or coffee, bread and butter (or its substitute) and dessert.

Dieticians were of assistance in arranging balanced appealing menus and in economical food buying.

## HOUSING

In the Department's experience, overcrowded living conditions in many urban districts and a lack of dwellings in isolated areas made housing a prime employee service.

Wherever possible an attempt was made to survey local housing facilities and to have a list of accommodations available to workers. Frequent inspections endeavored to insure cleanliness, proper environment and reasonable rental. In this, community agencies aided also.

## HOUSING (continued)

Inadequate local facilities often made it necessary to build dormitories for women workers. Good beds and inclosed closets with locks in dormitories stood high in workers' opinions.

Since some women were night-shift workers, attempt was made to have the sleeping quarters far enough away from the plant to have quiet during the day, and to have the quarters supervised.

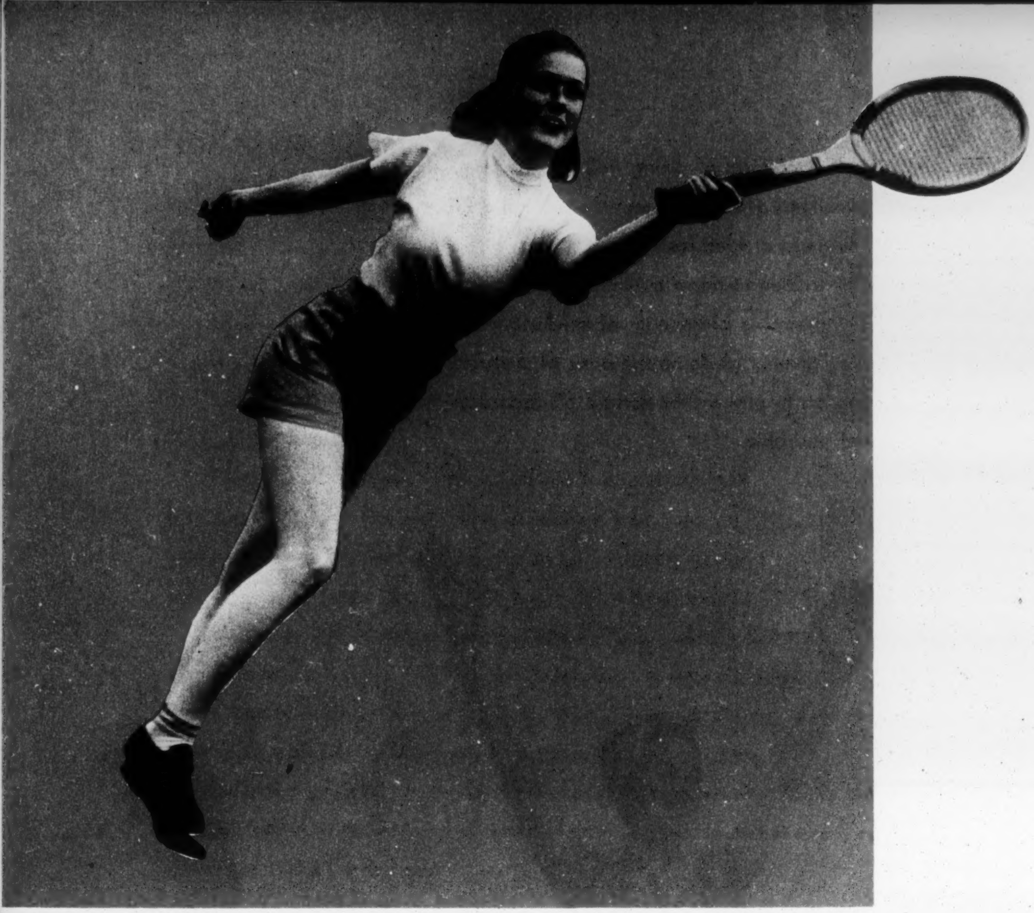
Privacy and adequacy were important in dormitory bath and toilet facilities. The customary proportion was one bathtub to 5 to 7 women, one wash basin to 4. Laundry facilities consisted of washtubs, hot and cold water and ironing boards.

One room was usually set aside where the sick could be isolated and first aid facilities were available if no infirmary was near. In severe illnesses, patients were taken to the hospital. Except in very large dormitory groups, it did not seem necessary to have a hospital nor a fully trained nurse on duty all the time.

Reception or lounge rooms as well as reading rooms were usually provided, and sometimes a recreation hall where visitors, both men and women, could be entertained and parties held.

Dormitory residents usually had a cafeteria or dining hall of their own. In addition a snack kitchen was sometimes available where the women could prepare quick meals such as Sunday night suppers, or food for the sick.

The selection and assignment of women to dormitories had material import. Admission of even one woman of undesirable personality often disrupted the harmony of the entire group. Selection and assignment made on the basis of character, personality and a physical examination to prevent the spread of disease, with health checks from time to time, appeared desirable.



## RECREATION

Dormitories seemed most successfully managed when placed directly in charge of woman supervisors, whose duties also included attention to the personal comfort of tenants and help in solving small problems of occupancy. But care was needed in the selection of such supervisors to see that they did not regard themselves as counselors or as police officers.

With several dormitories, a general housing manager to supervise the unit supervisors seemed advisable. In some installations, women counselors had this duty.

Dormitory rules were established for the benefit of the entire group, and occupants were encouraged to participate in their formulation and enforcement through housing committees. Among rules developed were those on quiet, reception of male visitors, time in and out of the dormitory, and care and use of bathing and laundry equipment.

Although recreation did not require extensive attention in the average War Department installation, to some installations where women worked under pressure and lived in over-crowded conditions recreation had great importance. In those installations it was felt necessary to provide relaxation, entertainment, and self expression as a means of maintaining good morale and work efficiency. Programs

for recreation were bettered and broadened when combined with civic and public recreation activities and community facilities were used.

It was found important to have women workers participate in the selection and development of their recreation programs. This resulted in fitting the recreation to their desires and also in fostering a feeling of being participating members of the work community.

Recreation designed for the specific age group, young or old, and those that included men seemed best liked. Indoor recreation included dancing, games, music recitals and dramatics; outdoor consisted of sports suitable to the participants and the season.

## CHILD CARE

Child care is about fourth in importance as a necessary employee service, in the opinion of field installations. The problem usually was solved through use of community facilities. In the few installations that established their own child care centers, results were not always satisfactory.

Child care service has the value of relieving the anxiety of mothers for their children—an anxiety that may decrease efficiency or cause mothers to quit.

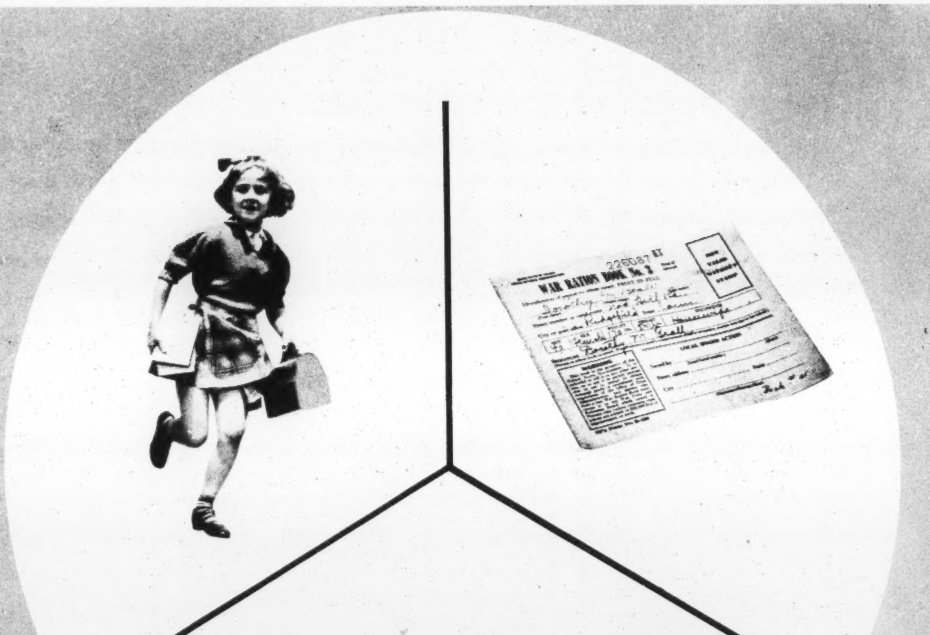
## OTHER SERVICES

Other services considered by installations employing large numbers of women industrial workers were shopping, banking, transportation and school facilities. Work hours were sometimes timed with the opening and closing of stores or special arrangements were made with stores and banks for accommodating women workers, who are the chief family shoppers; paydays were staggered to avoid shopping and banking rushes; and arrangements made for issuing ration books at the installation.

Almost all War Department installation transportation problems were magnified by the employment of women workers because most women had more work to do at home after the day was done. The revision of schedules and routes for the convenience of women on night shifts, where possible, helped.

The availability of schools was a feature in attracting women to industrial work. Local school authorities often revised their programs for the convenience of women workers' children. Similar assistance was sometimes obtained from other educational agencies for after-school care.

ROBINSON'S
DISPENSARY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WAR RATION BOOK No. 3
LOCAL BOARD ACTION

COUNSELOR

## COUNSELING

Counseling as a personnel function appeared greatly increased in importance with the employment of large numbers of inexperienced women workers. Investigational and consultative in character, counseling for women was on a broader basis than that for men, with additional problems that required skillful handling.

Complete counseling programs for women had these general types of service:

1 Training courses for supervisors;

2 Orientation for new workers;

3 General counseling on questions affecting work;

4 Health counseling; and exit interviews to ascertain causes for separation.

The participation of women counselors in courses for training supervisors of women workers, for a better understanding of women's problems, was important in the opinion of many installations. This participation also helped supervisors and counselors to understand each others' functions. But some problems that were complicated, confidential, or that consisted of personality difficulties between worker and supervisor, appeared more appropriate for handling by counselors.

It was felt that health counseling gave best results when separated from general counseling, and conducted by nurses or doctors. This type of counseling revealed that health problems are characteristic of small groups of women, rather than spread throughout the work force, and seemed particularly successful in reducing absence from dysmenorrhea.

Exit interviews provided information on why women could not or would not continue working. Care was needed to ascertain real reasons and avoid too much use of the column of miscellaneous reasons, which best opinion felt should not exceed more than 10 to 15 percent of the total.

A constant contact maintained with community agencies and leaders by counselors worked toward better or supplementary services for women workers, and also served as a means of providing good public relations and promoting general community acceptance of the new women workers, especially those who were in-migrant.

Experience has indicated that when the power of effecting transfers was vested in the counselor there was a tendency to break down lines of supervisory authority and produce conflict, as supervision was by-passed by transfer through the counselor. The practice of having the counselor call attention of the placement division to a problem that might be solved by transfer appeared more effective.

Coordination of all counseling activities for women was deemed essential so as to have all counselors operate on the same philosophy of management and with a similar background of knowledge in relation to women. Weekly meetings with the chief counselor or director of employee relations, in a large installation, aided, especially when counselors were not in the same building. Records also required this coordination.

Counselors who checked actual work situations and conditions for a clearer picture of worker environment increased their effectiveness.

Women counselors at installations also served as connecting links between working mothers and agencies supplying child care. By consultations with mothers, the counselors often uncovered dissatisfaction with arrangements and helped to adjust them. Counselors also informed the community of installation needs.

## COUNSELOR QUALIFICATIONS

The most effective women counselors in War Department installations had unquestioned character and were acceptable to supervisors as well as workers. Their attitude was objective even though sympathetic. Those without former industrial experience found it wise to get at least a limited working experience in the shop. Where solutions to individual and group problems were sought in terms of production needs, rather than as protagonists of workers, results appeared best.

## NUMBER OF COUNSELORS NEEDED

The number of counselors necessary in an installation has depended chiefly on its size and newness, on the experience of supervisors and workers, and on the competency of the counselors themselves. Experience has produced no acceptable formula on which to determine the proper ratio of counselors to women workers.

When restricted to determining need for and development of group facilities and caring for individual adjustments which were beyond the power of management to deal with in the mass, counselors were considered to have served a most useful purpose.

This concept placed the emphasis on the quality of counselors, not number.

Counseling in an installation without other employee services often led to dissatisfaction and misunderstanding. Also, counselors could not compensate through counseling for management lacks in other fields such as placement, training and basically sound employee relations.

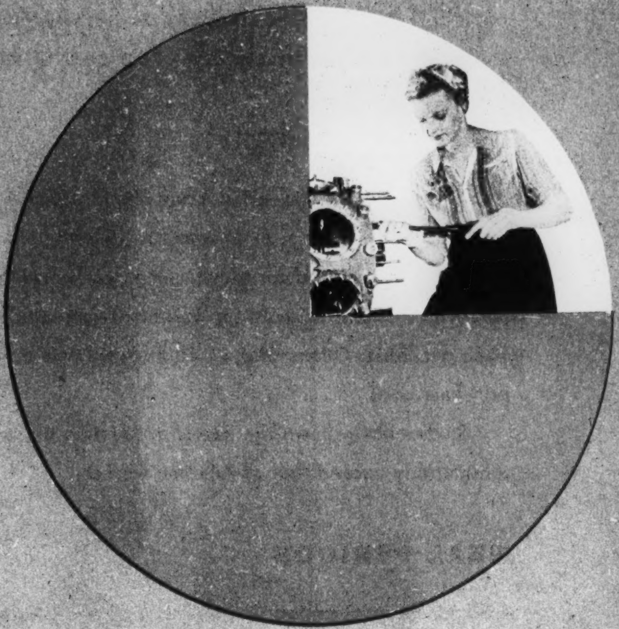
To lessen women workers' feeling of strangeness in industrial surroundings and at the same time stimulate interest in plant affairs, some installations encouraged women's appointments to committees on safety, health, child care, dormitory, recreation and publicity. Women also served on grievance and idea-suggestion committees; reports indicate that many grievances were more readily solved through a woman's understanding of the female point of view.

# WORK SCHEDULES AND PLANT ADAPTATIONS

## HOURS OF WORK

In some War Department installations, war emergencies made it necessary to lengthen the 8-hour work day and 48-hour week. There was indication, in the War Department's practical experience in the employment of women on industrial jobs, however, that spoilage and waste attended longer hours, that hourly output was reduced and that irritability and a tendency to accidents developed. Where the majority of women workers were obliged to spend an hour or more of travel each way per day, overtime seemed to show particularly bad effects. Close observation of overtime was also needed where the operating tempo was unusually rapid, intense or enervating. Where a slower pace was customary, longer hours were worked without apparent injurious results.

Studies show that the average housewife spends about 65 hours a week in household activities. Even if she shifts two-thirds of the home obligations upon assuming a job, a sizeable amount still remains (approximately 20 hours) which she must do herself. This gives her a work week at home and in the plant of about 68 hours, a substantial burden.



## NIGHT WORK

The recognition of special hazards to girls from nightwork resulted in prohibiting night employment of those under 18 years old. They could work no longer than 48 hours, and not after 10 p.m. or before 6 a.m. except in emergencies.

Effort was made to observe the law in many states that women under 21 were not to be employed after 10 p.m., as good personnel and public relations practice. Supervision at night was often more difficult, too, and some plants did not have adequate restaurant facilities at night which caused another hardship.

It was found undesirable, also, to put mothers of young children on the night shift; although some expressed a wish for this (they wanted the night shift to do home chores during the day and work at night while their children slept). But evidence appeared to show that it lowered vitality and was attended by frequent absence.

Other women have been put on night shifts without apparent general ill effect.

Shift rotations were found desirable, but not too frequently. About every two or three months seemed preferable. Greater frequency added to the difficulties of household arrangements, especially for mothers. Figures show high absenteeism as well as job terminations often coincide with change of shift times.

## PART-TIME WORK

Part-time work was allowed in many plants, permitting further utilization of women. Some part-time arrangements were: two women working alternate days as a team; one day a week as a relief for regular employees; and the first or last three days a week.

Women were recruited for part-time work who would not otherwise have been available. Others who would have quit were willing to continue to work on a part-time basis.

Studies have shown the hourly production of part-time workers often tends to considerably exceed that of full-time workers.

## MEAL PERIODS

A 30-minute meal period was the general rule where restaurants were conveniently located, but when not, it appeared advisable to lengthen the meal period or have food delivered. When facilities were limited, time was saved by staggering luncheon periods; admission was regulated by section or division identification cards.

Women employees in general worked no longer than five hours without food, conforming to most state legislation. A good mid-shift meal was felt beneficial if enough time was allowed to eat it.

## REST PERIODS

The average housewife in industry, formerly accustomed to breaking her work day as she chose, feels the need of a rest pause during an 8-hour stretch of work. Consequently one rest period every half-shift was granted in most War Department plants.

The length of the pause, determined by the character of the work, varied from 5 to 20 minutes. Ten minutes was the general average. In some types of jobs, such as machine-tending or intermittent clerical work, the rest periods were allowed during work lulls rather than at fixed times. Rest periods for clerical workers as well as for those in the shop appeared desirable.

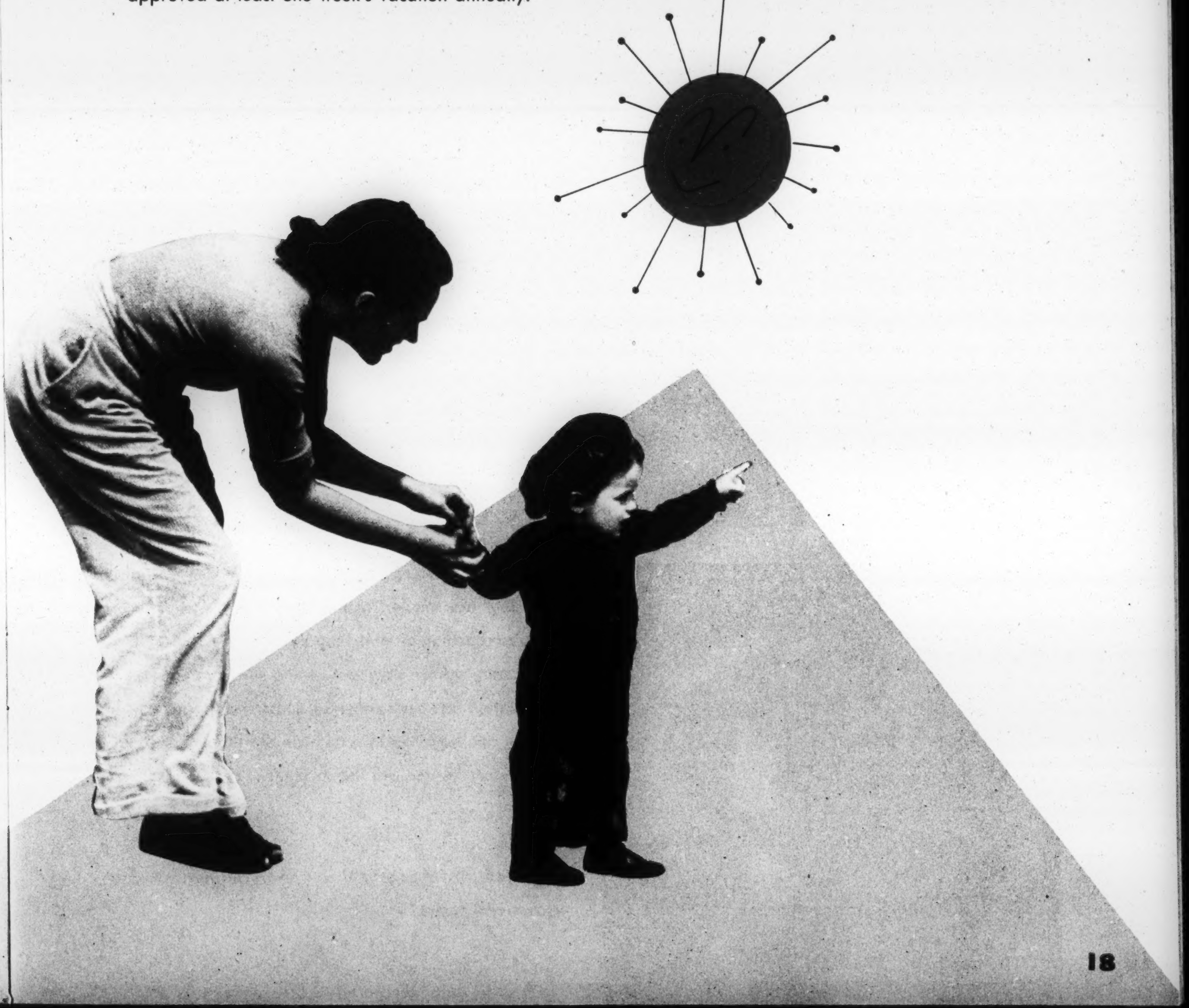
Where the job was uninterrupted and required intense application, several short periods rather than a long one seemed more beneficial. Rest periods were not always taken at the same time but were staggered to avoid interference with production.

Rest periods were believed increased in effectiveness when food was available at that time. Food served at 10 to 11 a.m. was a restorative.

Special rest periods for pregnant women tended to disrupt the flow of work and were usually regarded by other women as being unfair.

## VACATIONS AND LEAVE

Many industries, both in this country and abroad, following a rigid policy of little or no vacation periods, have found that illnesses as well as emotional disturbances greatly increased among women workers. The studies suggested that the resulting loss of time was greater than with the vacation. War Department plants generally have approved at least one week's vacation annually.

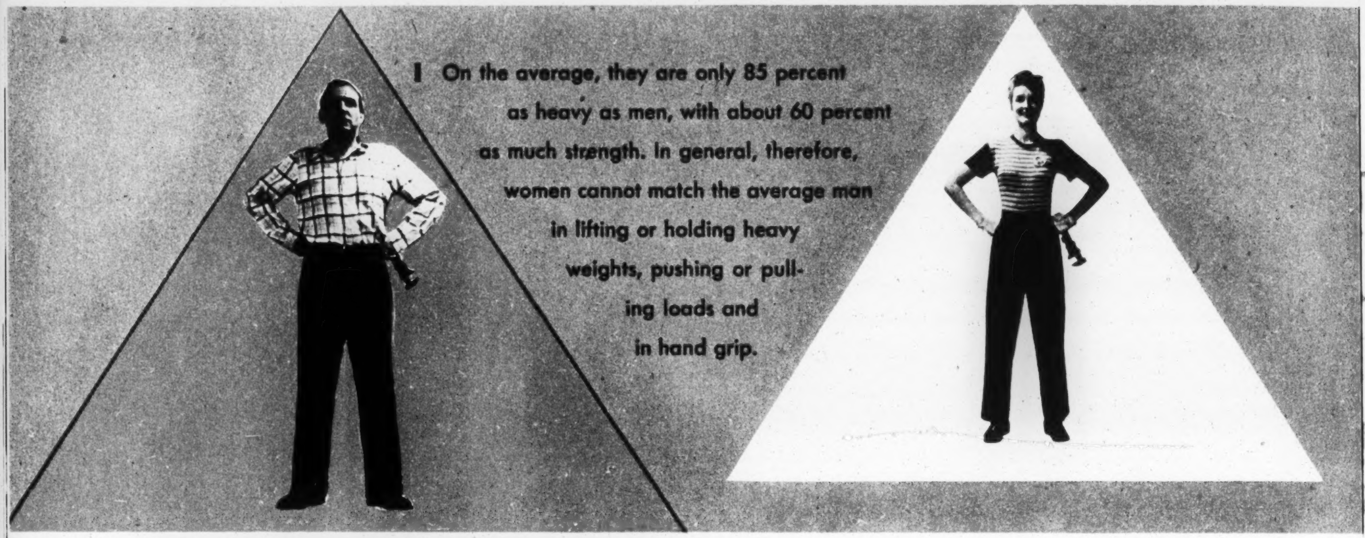


Not only have regular vacations proven valuable, in the Department's experience, but also periodic leaves granted for personal matters, or for rest and relaxation. Failure to provide reasonable time off seemed to result in excessive sick leave and low morale. An interval of a day's rest between shift rotations sometimes added to work efficiency and made possible better home adjustments.

## PLANT ADAPTATIONS

The principal objective of War Department plant adaptations for the employment of women was the achievement of maximum utilization by conserving energy, protecting health and providing safety. Most plants were originally designed for work by men, consequently adjustments in plant equipment and facilities for use by women were necessary, centered largely on: 1—safe, properly modified working equipment and places; 2—rest places; 3—sanitary conveniences.

Some general physical limitations for women are:



1 On the average, they are only 85 percent as heavy as men, with about 60 percent as much strength. In general, therefore, women cannot match the average man in lifting or holding heavy weights, pushing or pulling loads and in hand grip.

2 Standing and sitting heights, arm length and size of hands and feet are smaller. Machines designed for male use often require reaching or stretching by women, to operate them. (Like men, women vary in size and strength, but no significant correlation has been ascertained between weight or height on the one hand and strength on the other; the usual concept that heavy women are the stronger is unproven.)

3 The sensitivity of pregnant women to certain toxic dusts, gases and fumes.

Hand-tool and equipment modifications generally entailed the reduction of handles and levers to fit the smaller hands and shorter arms of women; adaptation of foot pedals to shorter leg length; and lowering work benches, usually to 37 inches, (for standing workers) for their shorter height and reach or the construction of special platforms when regular benches could not be lowered. Where practical, provisions were made for both standing and sitting positions; reaching was made horizontal instead of vertical where operations permitted.

Lifting was minimized by the use of conveyors, levers and other mechanical aids. Although some state laws provide for maximum weight lifting of 25 pounds, it was found that physical strain depended on muscular structure, angle of lifting, continuity, ease of grip and practice.

Good ventilation was important because of smaller lung capacity and fewer red corpuscles. Good housekeeping, with floors kept free of grease, water, litter and obstructions prevented many falls, the principal cause of accidents among women. Clean bright walls seemed to have a stimulating effect.

MENU
RATION 10-1
MENU 3
MENU

Well-lighted rest rooms with good-size mirrors and full-length lockers (one per woman) contributed to comfort. Where clothing was dirty or contaminated with chemicals double lockers were desirable. Toilets with all sanitary equipment were provided according to standard schedules.

Private, clean, quiet places for women to relax, with a couch to lie on, were considered helpful. Generally considered sufficient was a ratio of one couch to the first 100 women with an additional one for every 250 thereafter.

It was usually desirable to have women's rest rooms supervised by a matron to keep them clean and prevent loafing and unnecessary congregating. She also gave minor assistance to the women in personal ways, although she was not in any sense a substitute for a counselor. Without a matron, rooms needed daily inspection and care some other way, in addition to the periodic sanitary inspections by medical personnel.

## HEALTH AND SAFETY

Certain industries have employed a number of women for many years but records on health, accidents, and general physical and mental reactions to industrial environment were inadequate as a guide for large-scale woman employment. War Department personnel and medical specialists pioneered extensively in industrial hygiene and health, in view of the fact that nearly all available evidence showed ill health was the principal cause of women quitting their jobs.

Out of vast experience and much improvisation of general rules as need dictated, certain practices have arisen for protecting the health of female personnel. Some have general application, others were designed to meet the needs of particular plants.

Effective hygiene programs for War Department women were more quickly established and maintained when medical, safety, personnel, and operations specialists pooled their efforts in formulating them and carrying them out. Most of the responsibility, however, for development of such programs rested upon the medical and personnel divisions.

Medical divisions of the Department have provided first aid, preplacement physical examinations and health education and counseling.

## HEALTH RECORDS

Accurate medical records on physical capacities, illness and accidents are useful in carrying out current programs and as guides for developing future practices.

Illustrative of how such records can serve management, the medical division's analysis of sick absences at a certain installation showed that they were confined to a relatively small group of women. Proper counseling and placement readjustments resulted in a sharp reduction and a marked improvement in quality and quantity of work.

The Army Industrial Hygiene Laboratory at Johns Hopkins University has completed a critical review of medical literature and data on health and accident problems of women in industry. Some of the more important conclusions follow.

## SICKNESS

"The annual number of absences due to sickness per 1,000 workers was reported in one study to be 1,766 for women and 854 for men, an excess of 107 percent for women, and from another survey, to be 904 cases per 1,000 women and 376 for men, an excess of 140 percent for women. The average number of days lost per year for women was 10.7 and 5.7 in these two studies and for men 7.1 and 2.8 respectively. The difference in the incidence of illness reported by these two studies reflects the many difficulties and inaccuracies in the collection of such data and the need for more extensive investigation.

"It is evident that women have many cases of illness per year and lose considerable time from work from this cause and that both the frequency of illness and the time lost greatly exceed that for men. The average number of days lost per illness, was, however, greater in men than in women, about eight days for men and six for women."

## CAUSES

"The chief cause for sick-absenteeism were the respiratory diseases which accounted for about 50 percent of both the number of cases and the annual number of days lost.

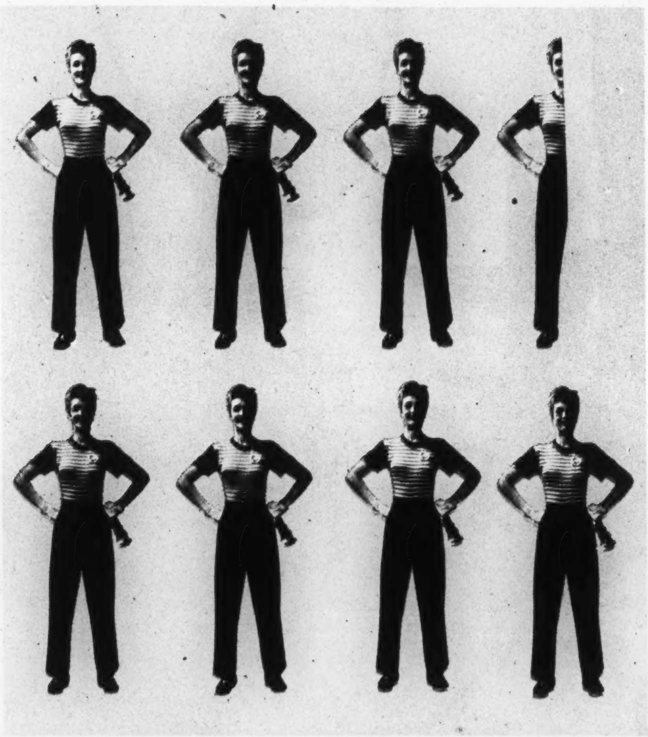
The majority of cases of sickness were of short duration. According to the reports of one industry about 67 percent were of one, two, or three day's duration.

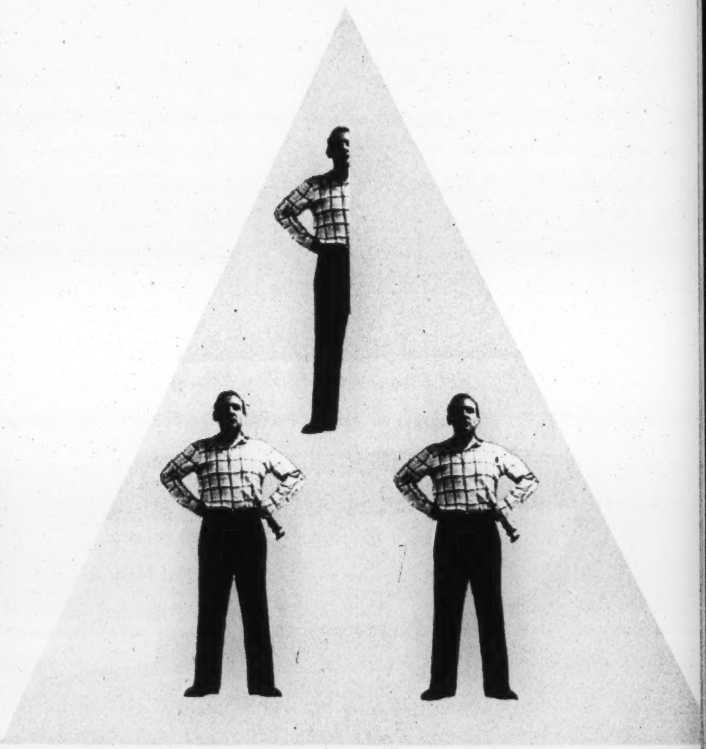
The frequency of illnesses appeared to decrease with age, although the average number of days per illness increased. Since these two factors counterbalance each other, the annual number of days lost did not show any marked trend, with age, except in the older age groups. The employment of middle-aged women, therefore, lowers the frequency and does not increase the annual time lost due to sickness. The female rate exceeded the male rate at all ages from 18-64 years.

Married women had higher sickness rates than single women of all ages and for absences of all durations. The excess sickness was not due primarily to the diseases of the genital organs."

## OCCUPATIONAL DISEASES

"All of the measures which are essential for the prevention of occupational diseases apply equally well for women and men. The only measures specific to women are those for the protection of the pregnant woman. On the basis of the limited evidence available at present, there is no reason to believe that either the physical or chemical quality of the air, such as temperature, humidity, toxic dusts, gases, fumes or the sanitary conditions of a plant, affect the health or working efficiency of normal women differently from men."





## SAFETY

Accident prevention measures in connection with fatigue were reported most effective when the worker's physical abilities and disabilities were closely observed and the job routine adjusted accordingly. This sometimes required adjustments in operations, hours, rest periods and shifts. The necessity for such measures was greatly reduced, however, when the worker's physical abilities had been matched with the requirements of the job when she was hired.

Another factor effective for reducing accidents was the adjustment of machines and equipment for operation by women.

Periodic resurveys of heavy jobs in terms of their safety factors have been judged advisable.

Safety promotion among women was found to be largely a matter of training and wholehearted support from supervisors.

The Army Industrial Hygiene Laboratory study contained these observations on industrial accidents among women:

"More time is lost in industry through sickness than through accidents. In two studies it was shown that industrial injuries causing disabilities of one day or longer accounted for less than one percent of the total number of cases of disability and time lost due to disabilities among female employees, while non-industrial injuries were responsible for not over five percent of the cases and not over ten percent of the time lost due to all disabilities.

"Industrial injuries which caused one or more days of disability occurred at the rate of about four cases per 1,000 employees. Non-industrial injuries leading to one or more days of disability caused from 50 to 80 absences per 1,000 women per year with a loss of about one day per woman per year."

## PERSONNEL STAFFING

The War Department has not found it generally desirable to set up separate women's sections in personnel divisions. It has been found desirable, however, to attach skilled and experienced women as aids to efficient functioning of the entire personnel program. By the selection and development of such trained women, personnel directors have found easier and more effective the execution of management programs as they pertain to women.

Competent women specialists employed within the personnel division and functioning as an integral part of it rather than segregated in a separate section, are known to have contributed substantially to the utilization of womanpower. They have aided greatly in giving consideration to women workers' needs in the development of overall personnel policies.

In the field of personnel, women have been counselors, dormitory managers, supervisors, employee relations directors, recreation assistants, recruiting, placement and training aides, classification and salary and wage analysts, and assistant personnel directors.

The addition of women doctors, nurses and health counselors to medical staffs has also aided greatly.

Many War Department women personnel assistants have been particularly valuable. They have counseled and participated ably with management in the solution of personnel problems and helped execute policies relating specifically to women. They have served as connecting links between management and community in the consideration of needs of women workers. They have usually been the first means of discovery for management of these needs before they became acute.

Women assistant personnel directors from a teaching background have not been particularly successful in the experience of the

Department, because they tended to assume a position of authority with both management and workers rather than one of leadership —always necessary in handling adult workers. In addition, they were found frequently concerned with individual problems rather than development of productive workers as a whole.

The services of trained, competent personnel women appeared to produce a sense of well-being among women workers who felt that their needs were receiving systematic and sympathetic consideration.

Most successful in their work were personnel women whose professional backgrounds and work experience as well as personalities were respected by other staff members and workers.

## RECORDS

All personnel records relating to performance and evaluation of employees kept on the basis of male and female have been valuable sources of information in distinguishing major problems of men and women. The chief records needed are those relating to accident frequency, severity, and sources; absenteeism, especially sick absences; quitting rates and causes; and production figures. Grievance and suggestion records kept by sex have also provided clues to attitudes and needed adjustments of women workers.

Such records, not only for the installation as a whole, but also by major divisions and segments, have frequently revealed problems affecting particular sections of an installation or occurring under certain supervisors or under certain sets of conditions.

Records of counseling interviews, reviewed frequently by counselors to get a picture of the individual, were reported valuable to management. Cumulative exit interview and general counseling records every six months showed trends in employment and often assisted in interpreting them and sometimes served as a signal for recheck on services and procedures.

# PLACEMENT...THE RIGHT WOMAN IN THE RIGHT JOB

Women workers bring to industry certain assets:

1. They are capable of learning most industrial processes relatively quickly.
2. Accident and spoilage rates are comparatively low.
3. On certain jobs, they produce more than men.
4. They have untapped creative ability that can be stimulated by shop participation and suggestion programs.

The experience of War Department installations has shown that proper placement is the keystone in the full utilization of these valuable assets. Reports from the field show that no other personnel device can substitute for good placement procedure. When women felt they were on jobs for which they were fitted, morale was rarely low. A sense of well-being appeared evident which added to the efficiency of the working force.

After a tentative selection had been made in the placement office, women applicants were usually referred for final selection to the work supervisor or operating heads. However, the supervisor could fulfill this responsibility properly only when he knew in advance that women were to be referred to him, and when he had some experience or training in the supervision and management of women workers.

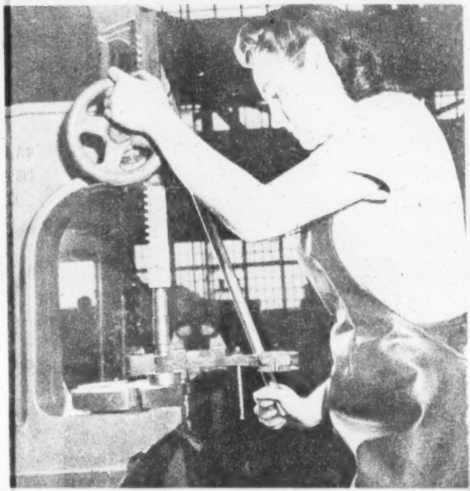
Prime objective of effective placement programs for women, as for all workers, was the selection of individuals with attributes and potential or developed skills needed on particular jobs.

## JOB ANALYSIS

The first step in an effective placement program for women was an analysis of all existing jobs, which disclosed not only entire jobs that could be filled by many women but also the means of breaking other jobs down or adapting them to meet the capacity of the average woman.

Job analysis covered the following aspects:

1 Operations and skills needed;
2 Training needed;
3 Job environment;
4 Physical requirements;
5 Safety consideration; and
6 Personal qualities needed.



Job break-downs were aimed at separating work into simpler units that could be mastered with a brief period of training. The operations and skills needed were studied, first. Then the skills that could not be quickly acquired by women were set aside, and those jobs eliminated from consideration. Others were filled by women, either immediately or after training.

Job environment—whether indoor or out, damp or dry, noisy or quiet, alone or group—was important information for the placement officer.

Also desirable was a description of the physical activity required—lifting, climbing, bending, standing, etc. Experience indicated that unless mechanical aids or other devices obviated the need for the specific physical requirement, general good health would not compensate for its lack in the worker.

Job hazards had to be considered, too.

Stability, maturity and poise also were important. These personal qualities seemed especially needed in jobs where women worked alone and supervision was difficult.

## ANALYSIS OF APPLICANT

So that a matching process could follow the analysis of jobs, the women themselves were "analyzed."

Written applications frequently failed to provide a guide owing to the fact that so many of the applicants were industrially inexperienced and former housewives. Two means were used to reveal capacities:

1. Examinations, physical and mental, and in skills;
2. Interviews to find avocations and related skills.

## EXAMINATION

**Physical . . .** Physical examinations regarded as of first importance in determining fitness for industrial jobs, were designed to disclose only information pertinent to effective performance. Such examinations, therefore, were not uniform throughout the War Department but adapted to the type of jobs found in individual installations. They were as extensive as job requirements demanded, in some cases including pelvic examinations, and were devised by the placement and medical divisions.

Descriptions in terms of fitness for specific jobs rather than a general "fit for light" or "arduous duties" gave more exact placement.

Special effort was made to have the selection of women for jobs requiring lifting ability determined by medical staff rather than by arbitrary standards such as a 25-pound limitation. It was found that many women were unable to lift as much as 20 pounds continuously or at difficult angles.

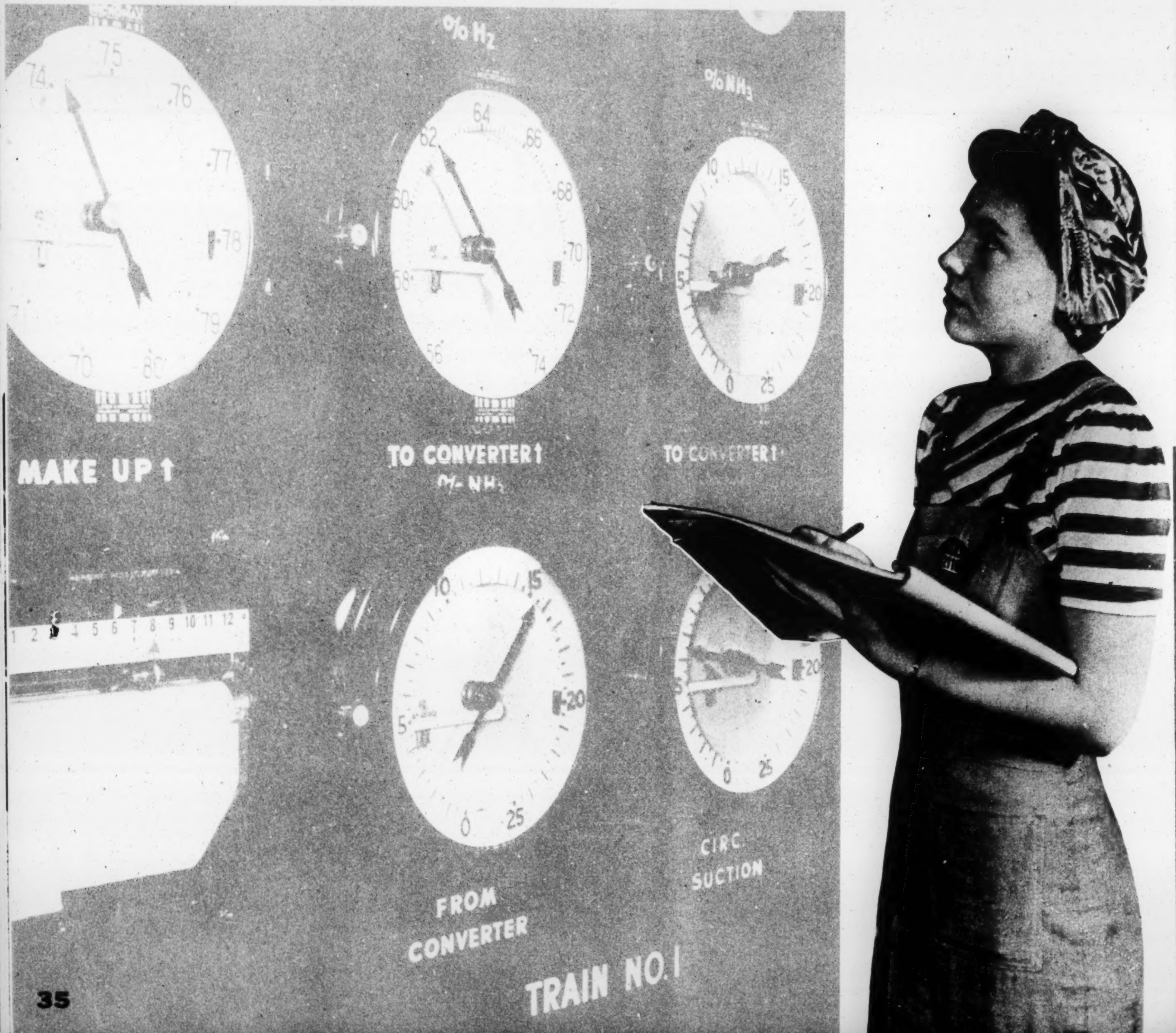
It was found preferable for installations to give their own examinations or have them given under their supervision, rather than to rely upon certificates of private physicians. Private examinations could not be closely related to the job as desirable and were an unnecessary cost to the job applicant.

Use was often made of community facilities for giving or supplementing physical examinations, however. In many places considerable help was given by state, county and city health departments or private community agencies, and the United States Public Health Service.

Periodic checks in some War Department installations by medical staffs determined the individual's capacity to continue on the job. Particular attention was given to rechecks of pregnant women. The time of such checks varied according to the type and routine of the work. Each transfer and upgrading or promotion was theoretically considered a new job from the point of view of physical qualification.

**Mental . . .** The extent of education has an important relationship to the capacity of women to learn, and to general stability, in War Department experience. General mental capacity was tested by standard intelligence tests where the job involved definite mental qualities. More often, tests of specific types of ability such as arithmetic tests for checkers and storekeepers were of value to the installation.

Protracted tests were exhausting and discouraging to the new woman worker who often did not understand and therefore suspected them. Therefore, examinations were confined to tests that disclosed information of definite and immediate value.



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MAKE UP↑
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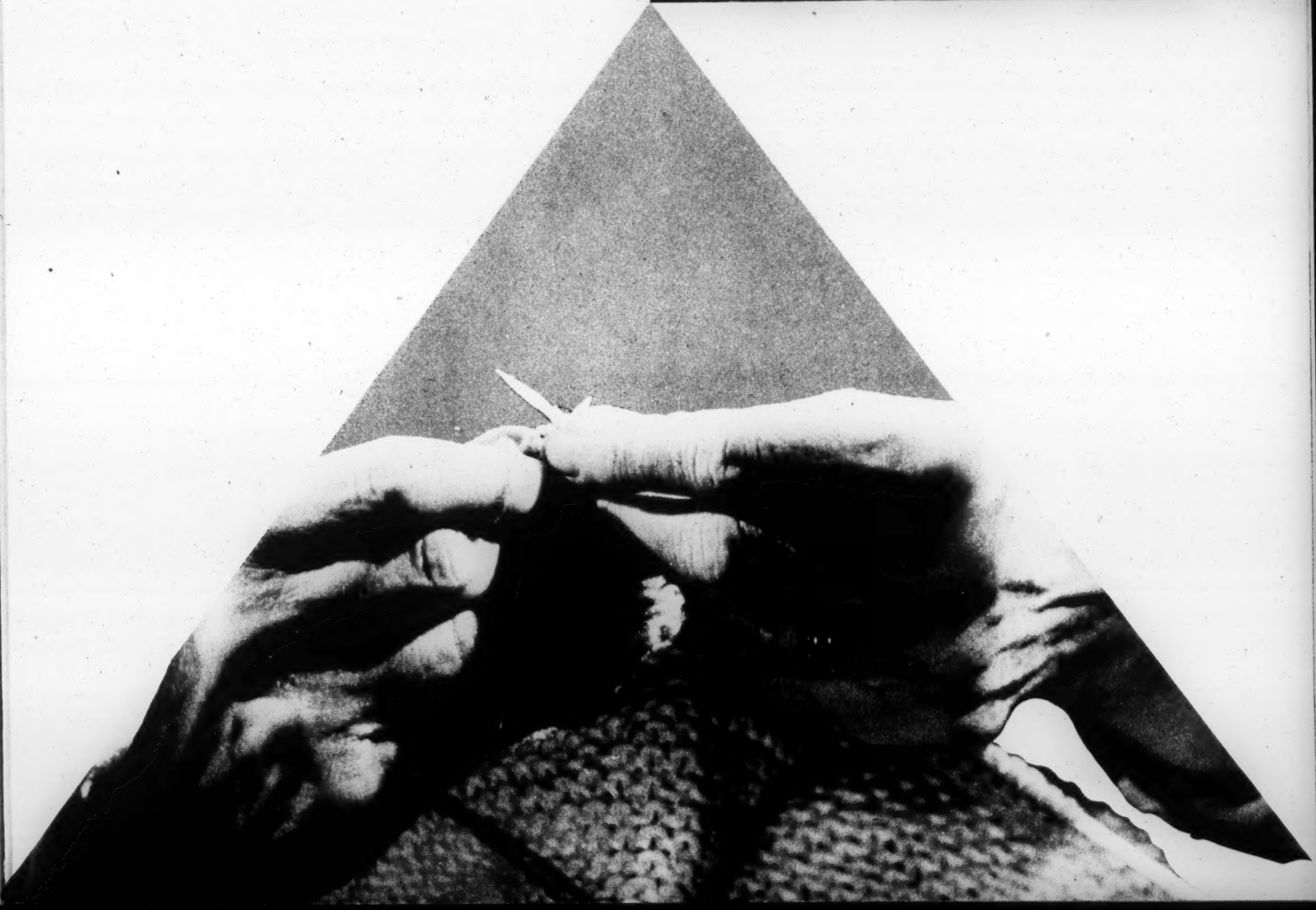
## SKILLS

For many semi-skilled jobs, short on-the-job try-outs often seemed to work out more successfully than aptitude tests. The try-outs frequently revealed not only potential skills but also psychological reactions to the working environment. In more skilled jobs, standard aptitude tests were used.

## RELATED SKILLS

Avocations proved more significant as clues in the proper placement of women workers than in the case of men. For example, women expert in needlework usually did well in jobs calling for finger dexterity; hand knitters and crocheters also were good. Certain other skills had a transfer value, such as those of beauty parlor operators, who did especially well in delicate manipulations.

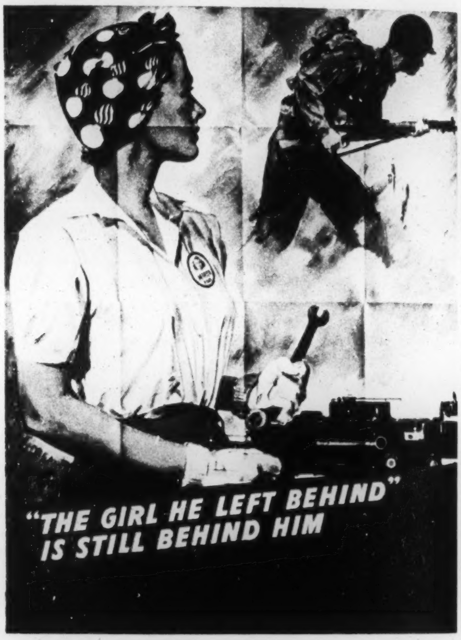


Special efforts were necessary to discover specific skills or related training not shown on the application form. Disclosure of allied training often avoided an additional training period at the installation, making possible assignment to jobs at a higher level. Interviewing, skillfully conducted, aided greatly in uncovering these facts.

## INTERVIEWING

Interviewing loomed large in the proper placement of women workers. Skill was required. It gave woman applicants their first impression of the installation and tended to determine many later judgments and reactions.

Interviews that disclosed the following items gave the best basis for placement: avocations, hobbies or related training (as mentioned in immediately preceding paragraphs); work attitude and temperament and home responsibilities.


"THE GIRL HE LEFT BEHIND" IS STILL BEHIND HIM

## WORK ATTITUDE

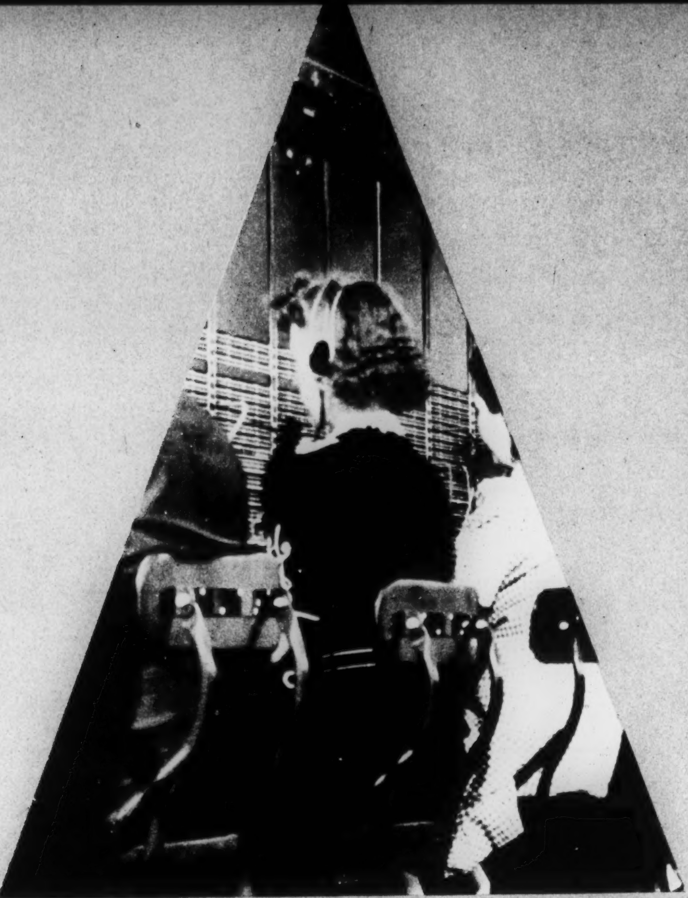
It was helpful for interviewers to find out why a woman was taking a job, what her general attitude toward work was, whether or not she was working with her family's cooperation and her general reactions. Temperament was significant. Many failures of women on jobs were believed directly traceable to personal and psychological causes rather than lack of skill.

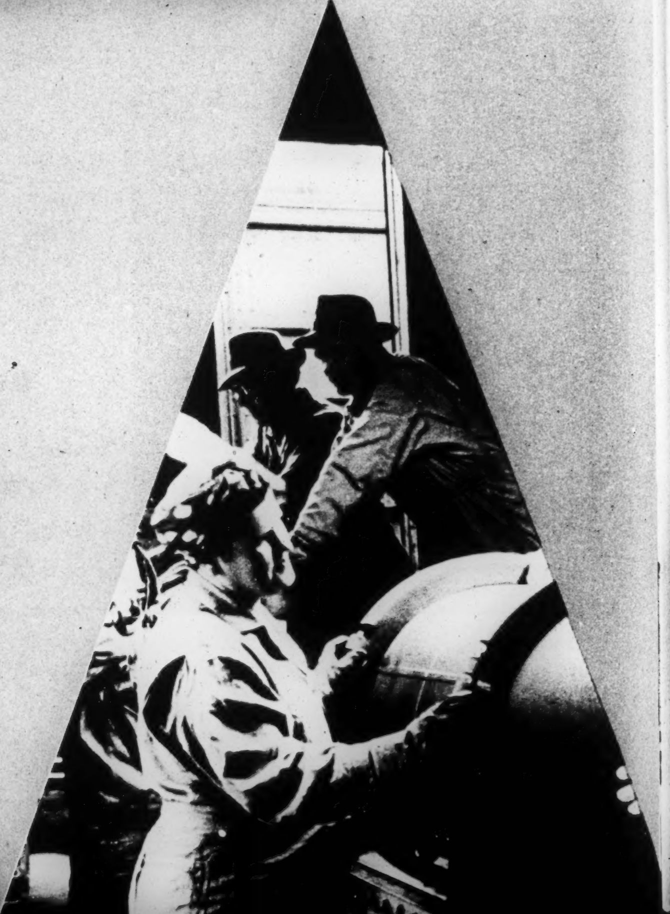
## HOME RESPONSIBILITIES

Women's home responsibilities may not always be a matter of children. Often they have dependent parents and relatives who are a drain on time and energy, ultimately affecting job performance. The successful interviewer attempted to find out not only such responsibilities but the means of meeting them. Quite often, too, in the unmarried group of women there were equally taxing home duties in the care of younger brothers or sisters, or elderly or sick members of the family.

## DESCRIBING THE JOB TO THE APPLICANT

It was found wise to have the interviewer tell woman applicants what the job required in skill, where it was done and something about the hours, pay, supervision, leave provisions, bond-deduction arrangements and other incidental facts.





Pictures were often shown of a job to get the woman's reaction to it. In difficult or unpleasant work a visit to the site of the job seemed advisable. Quitting after the first few days of employment was ascribed largely due to an industrially inexperienced woman's inability to visualize the actual conditions under which she was to work.

Capable interviewers used restraint in describing jobs and avoided glamorization, to prevent disappointment and dissatisfaction that sometimes led to resignation within a few days or weeks. It was less costly to lose a woman at the point of placement rather than to put her to work and lose her after a period of training.

## PLACE OF INTERVIEW AND TIME REQUIRED

Privacy as complete as possible with freedom for the exchange of confidential information was considered highly desirable in interviewing woman applicants. Sufficient time was necessary to bring out all the points of importance. It varied with the complexity, difficulty, and newness of the job, but in general the additional points to be studied with women required somewhat more time for interviews than with men.

It was found effective to have women interviewers work with women. Essential in their work was a knowledge not only of job titles but also the jobs as actually performed in the installation. Women interviewers who circulated regularly about the plants to familiarize themselves with operations as well as the needs of operating heads were the most successful in making good placements, according to field reports.

## PERSONAL REFERENCES

Use was made of personal references in case of doubt of the individual's character. Placement of one unsuitable woman could disorganize a whole group. Therefore, social acceptability in terms of local standards was not disregarded. When advisable additional character checks were made with community agencies, credit associations and investigating agencies.

## UPGRADING AND PROMOTION

Because they considered themselves temporary adjuncts of industry or felt they could do only a comparatively minor job, many women workers did not expect or want to be upgraded or promoted. But even for the woman who did not wish promotion, there was a morale value in knowing that the way was open for deserved advancement, in the War Department. Production records, continuity of attendance, skill, and conservation of materials were some of the determining factors for promotion.

## SPECIAL GROUPS

There were special groups among War Department women workers that were given attention. One group was the women over 45, in which it was advisable to make sure of physical fitness for the job, especially in standing work or that requiring agility.

The interest of this group in the job and comparatively lighter home-making duties often more than compensated for possible physical deficiency and they have proved very adaptable to social situations where a few women were working with large groups of men. They often required less close supervision after they have learned their tasks.

Young women 18 to 25 years of age required consideration in that their social interests were more extensive and active than the older group. Since their work habits were not as well developed, they generally required more supervision.

The third special group was the pregnant women. In justice to the individual, and in order to maintain a female working force, the Department felt that pregnant women should be retained in employment, and properly placed on jobs within their capacity. It issued a formal statement of policy to that effect.

Fourth, it was found well to earmark certain women at the time of placement as potential supervisory material, and inform their operating superiors who were then expected to observe their qualities of leadership and develop them.

# TRAINING . . . WHAT KIND, FOR WHOM AND HOW

In training tens of thousands of industrially inexperienced women for war jobs, training officials and supervisors were frequently impressed with the quickness with which women learned to perform an industrial operation.

In general most women were conscious of their industrial ignorance, and therefore in a learning frame of mind; also the instructors in many cases did not have to break up poorly or wrongly learned work patterns.

Again, many of these women wanted a War Department job for some definite personal reason, more often war-connected than not, that increased their willingness to learn and to apply themselves.

Finally, many had top-grade skills hitherto relatively unknown and untapped by industry as a whole; with these skills as a springboard they were able to learn and to master certain related operations faster than men.

On the other hand, the unfamiliarity of many women with even the names of commonplace tools slowed their learning in the earlier stages of instruction. Afterwards, however, generally speaking, they made up lost time and concluded with a total learning period about the same as that for men. Therefore, training procedures in mechanical and technical skills did not differ radically for women and men.

Experience had indicated that out-of-town training for women was undesirable, for all ages, and especially women with family obligations; also that the advisable maximum length of training courses was, except in unusual cases, about three weeks.

Just as in the case of men, it was found necessary not only to tell the woman learner how to do a job but to demonstrate it. Demonstrations supplemented by pictures and other graphic material enlivened interest and aided learning considerably.

Whenever possible the capable instructor attempted to draw illustrations from the domestic life familiar to women, and seek similarities between tools and household equipment like egg beaters, vacuum cleaners and washing machines.

For unskilled and semi-skilled jobs, training was acceptably performed on the job, saving time and money and putting the learner in the shop environment where the supervisor could size up her reaction to the entire situation.

For skilled and more complicated jobs it was frequently considered advisable to train women in courses specially designed for them, in vocation schools that simulated actual shop conditions as closely as possible. Sometimes classroom work was followed by demonstrations in the shop to help get the feel of the job.

Installation schools were used when available, also such facilities as provided by local, state or Federal agencies or private institutions.

In some cases agencies sent instructors into the plants which provided space and material.

Questions were to be encouraged both in class and at the point of job operation. The straight lecture method seemed less successful than the informal gathering under the leadership of a capable instructor who drew out questions, answered them simply and inspired confidence. Classes larger than 15 tended to discourage free questioning.

To have the instruction applied right on the job as soon as possible seemed excellent practice. The skill was better imbedded in the memory. Also, non-use of a newly acquired skill frequently had the effect of arousing resentment in some individuals, setting up a bad psychological reaction.

[redacted]

## TYPES OF TRAINING

Types of training given where women worked were: Orientation, skills, safety, health and supervisor training.

## ORIENTATION

Orientation training for women was proven important. Data indicated that more of their job failures were due to attitude or ignorance of plant requirements rather than lack of ability to master a skill. Therefore, orientation training aimed at acquainting women workers with special rules and regulations on pay, leave, hours, supervision and grievance procedure in force at the installation; type and location of facilities for eating, child care, health services, transportation counseling, housing and shopping; elementary health rules; safety regulations, particularly regarding clothing; proper conduct; and Civil Service rules and regulations that applied to them.

This phase of orientation was followed by effort to acquaint the employee with the plant as a whole, after which she was introduced by name to her immediate supervisor.

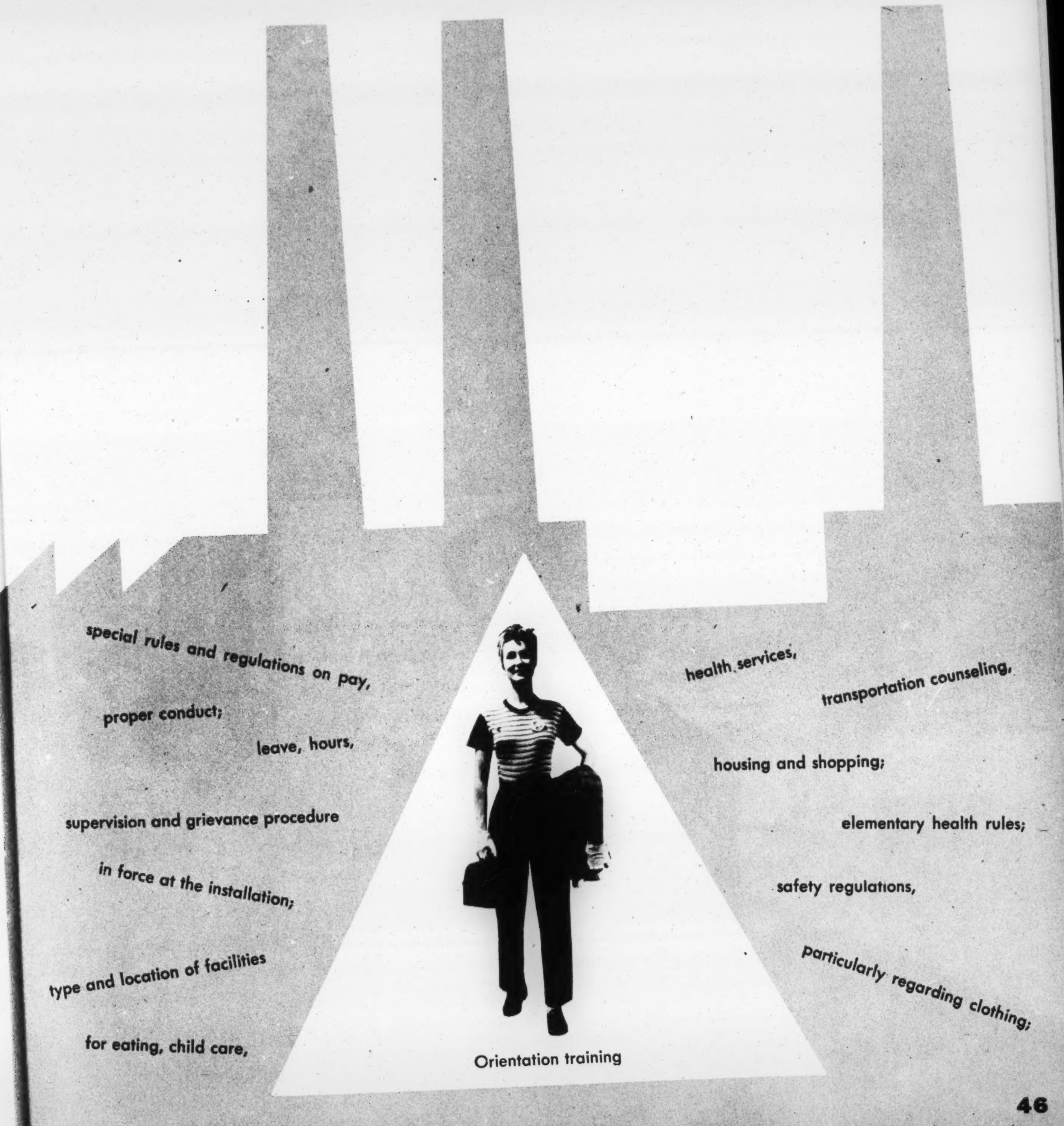
An employee's handbook describing the plant and its work, with information on working and living conditions eased orientation greatly, particularly when it had special sections for women.

The length of orientation varied with the size of the installation, complexities of the job and experience of the women. Generally it was the equivalent of one day. Breaking it up in sections on several days seemed more effective, and brief renewals later after entrance on the job appeared beneficial to morale.

## SKILLS

A plant survey for job simplification and dilution and a list of jobs which women could perform without job changes, aided in devising more exact courses of training. The break-down of jobs to their simplest component parts made training easier; less equipment and fewer highly trained instructors were required and the woman got into production faster which was important to morale.

Job simplification that proceeded to the most automatic point possible rendering decisions unnecessary, was best. Production increased as the necessity for decision was reduced.



Orientation training

special rules and regulations on pay, proper conduct; leave, hours, supervision and grievance procedure in force at the installation; type and location of facilities for eating, child care, health services, transportation counseling, housing and shopping; elementary health rules; safety regulations, particularly regarding clothing;

## SAFETY

Either as part of orientation or imparted separately, safety training was deemed essential. Many of the women were unaware of hazards in some industrial jobs. Installations therefore adjusted their training principles and shop practices, in many cases, to this situation by adopting special safety standards and modifying plant machinery and equipment for safe operation.

Unfamiliar with ordinary shop machinery and operations, women often were inclined to extreme caution, nervous tension or recklessness, produced by unwarranted fear of hazards or a naive disregard for them. As a rule, however, they were quite willing to observe rules and regulations if properly instructed. Sometimes their safety records were better than men.

Safety training was centered on the safe operation of hazardous machinery; good housekeeping; and proper work clothing and use of protective equipment.

Installations usually developed their own special training courses, adapted to particular needs. A large proportion of accidents in lifting jobs among women untrained in safety occurred in handling weights beyond their strength in awkward positions with insecure grips. One installation reported that this accounted for 18 percent of its accidents. Training for women on amounts that may be lifted and the right ways of lifting often reduced accidents from this cause to fewer than those for men, it was observed.

Training before actual job experience seemed to give good results.

Department installations endeavored to have literature and training materials on safety, have illustrations of women in them and discuss the problems from the point of view of women. Women safety engineers were employed by many installations.

## CLOTHING

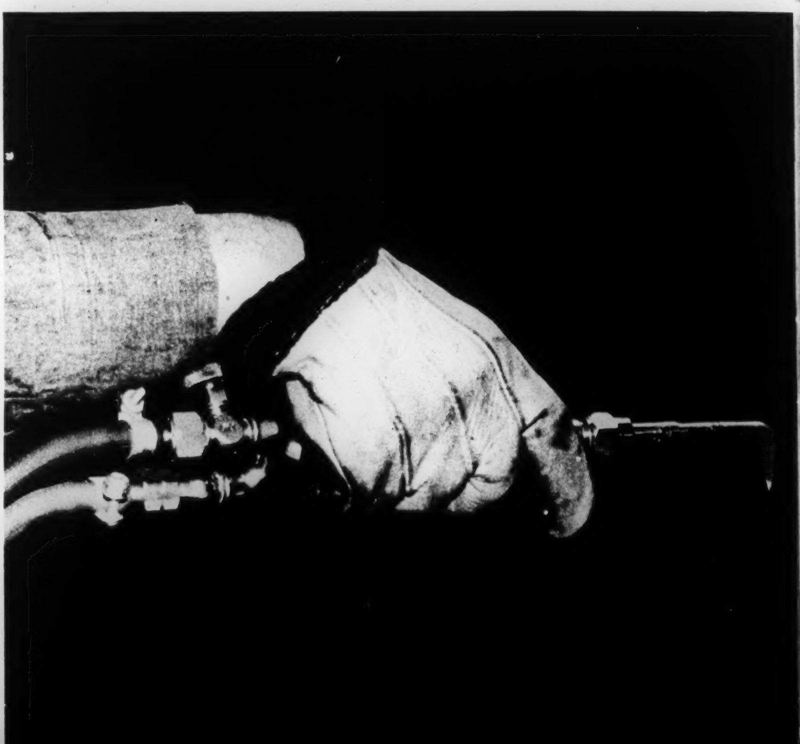
An area of safety training particularly affecting women, especially the industrially inexperienced, was that of safe work dress. The need for emphasis on sturdy work shoes or safety shoes was indicated by figures that placed falls or slipping at the top of the accident list.

The adoption of safe work clothing by women was regarded important enough by some installations to use such training devices as style shows, movies and picture material. Most effective illustrations showed the proper clothing for the particular jobs.

## HEALTH

Systematic health training appeared to improve stability and work attendance among women workers. In addition to elementary health and personal hygiene instruction during orientation, health consultation services were made available to women workers in many installations, on both a group and individual basis.

Instruction was usually given by doctors or nurses on Department medical staffs. It covered general health requirements and special problems as shown by analysis of sick absentee records. Health literature, motion pictures, posters and other educational devices have been used. Discussion periods were sometimes held.



## SUPERVISOR

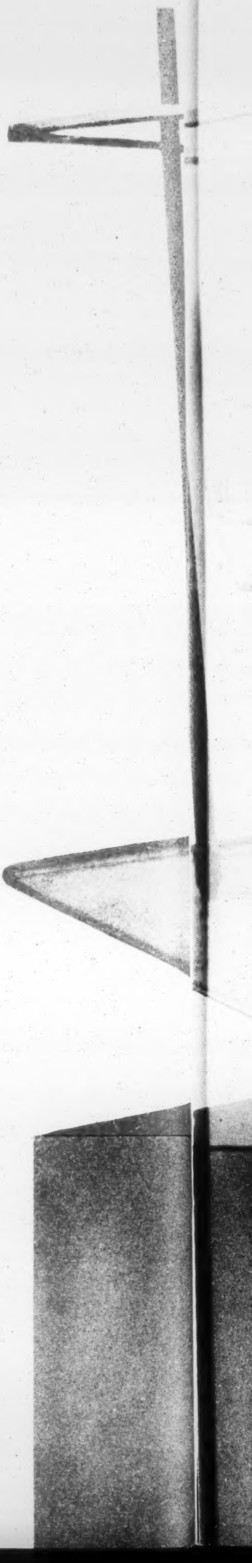
Home backgrounds, newness to industry, and differing physical and emotional characteristics of women workers placed keen emphasis on the need for good supervisory techniques in handling individuals so as to produce best production efforts. The clumsy bluntness of an unskilled supervisor untrained in the art of handling people soon caused dissatisfied employees. Therefore, where large numbers of women were employed or where smaller numbers were to be employed on jobs formerly performed by men, special training for supervisors often paralleled orientation and other training courses for women workers.

Veteran and new supervisors both learned lessons while supervising women. From the learning process emerged some conclusions about the supervision of female working forces, discussed in the next chapter.

## INSTRUCTOR ATTITUDE

Lacking self-assurance and accepting the popular notion that they were without mechanical ability, new industrial women workers frequently required confidence-building by the instructor in the training process. Where hazardous operations or processes existed, fear was dispelled by demonstrating safe procedure and imparting confidence that the worker could perform the job satisfactorily. Even when questions were foolish, a discourteous answer was damaging to morale.

Implicit in building confidence was the necessity of giving credit where credit was due without favoritism. Praise for fine performance and directed to the excellence of the work rather than the individual was good technique with women learners, even more than with men. The Department's experience in training and employing women has sharpened its convictions in respect to good personnel management, to get best results from people, male or female.

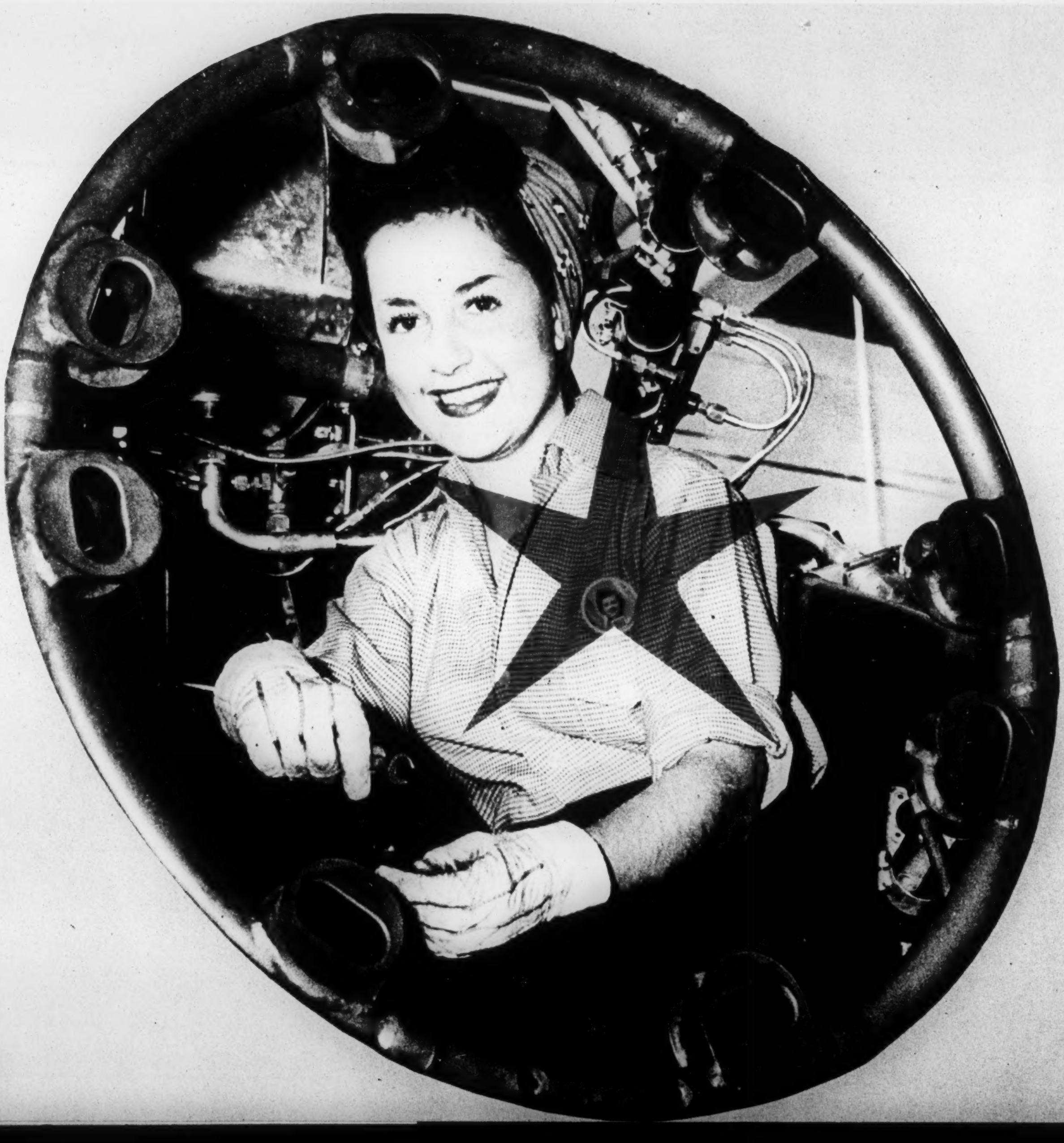


The necessity for safety training was usually determined from an analysis of hazards, the physical and psychological factors needed in safe workers, and accident records.

## SUPERVISION ... NEW WORKERS WITH NEW PROBLEMS

Maintaining morale among women war workers was an essential supervisory function. Many factors contributed to this end, such as general plant conditions, interest and fitness of work and adequate employee services but most important of all was the treatment of them as people—the cornerstone of effective supervision, on which is built the edifice of good personnel management and better production.

The degree of impersonal relations that apparently existed among men did not appeal to women. Women especially did not wish to be considered as cogs in a wheel, but as individuals. The supervisor who succeeded in establishing this feeling improved his workers.



Women have not been primarily interested in the great bulk of industrial jobs as such, the Department's experience indicated; they did not consider them as steps in a career. They were interested in them principally as a means of earning a living and aiding the war effort. The thoughtful supervisor recognized this lack of natural interest and the pressure of outside duties and tried to balance them by emphasizing the war-importance of the job and maintaining good working conditions.

Proper work scheduling helped greatly in promoting good morale. Insufficient work allowed time for thinking of outside obligations; too much work made the woman feel she had an impossible combination of jobs. Good supervision attempted to avoid either extreme.

Although accustomed to thinking out solutions to home problems women war workers appeared to have the tendency to discard this initiative in their new industrial environment. Hence, all forms of worker participation, including suggestions for work improvements, had to be encouraged. The formation of committees and small groups of their own to carry out various undertakings of a limited nature, and the inclusion of women in shop committees, were helpful.

Accustomed in their home relationships to talking freely, it was found desirable to let women have as much latitude in this direction as was compatible with work; the exchange of experiences and ideas contributed to their feeling of being at home in the plant. An identification with the plant contributed to stability. Supervisors on the alert for ways of developing this idea of being at home usually got better production results.

Supervisors of women found that a premium was placed on good management. For example, in exercising discipline, it was found imperative to administer corrections in private and in polite language. "Bawling-outs" often resulted in emotional outbreaks or quitting the job.

## ORIENTATION ON THE JOB

Supervisors played a vital role in introducing and orienting women employees to jobs. Initial general orientation needed continual follow-up to keep women workers convinced of the importance of their jobs as well as to build up confidence. Effort by supervisors to show the function of the job in relation to the war effort and plant mission, and to impress shop rules and regulations strengthened stability.

Foremen saved time and materials who made themselves easily available for consultation and encouraged questions. But ease of access was not to be distorted into familiarity, always succeeded by loss of respect.

## JOB ASSIGNMENT

In assigning women to work places, efficiency was usually promoted by grouping according to age and maturity; that is, the young with the young and the old with the old. However, a few older women in a group of young girls often had a salutary effect on conduct. As a rule, however, women usually worked better with those with whom they had most in common. But supervisors had to be watchful to prevent the development of disturbing cliques.

Supervisors, knowing the general physical limitations of women (see "Training Courses", following) and why certain kinds of jobs are difficult for them, tried to be alert for evidences of overstrain or undue fatigue among individuals on those jobs. Absenteeism and terminations were lessened accordingly.

## TRAINING COURSES

Training courses that included material on the physical differences between men and women, special aptitudes of women, their psychological and emotional interests and home responsibilities were helpful. The instruction usually formed part of the general course on supervision.

Instruction in the physical capacities and limitations of women was best given by members of the medical staff. Non-professional instruction tended to include misinformation, and even create extremes of thinking that women were fragile things or had identical capacities with men.

Personnel aids to make the supervisor's work easier were discussed in these training courses, and attention was given to an understanding of counseling and its relation to supervision, to avoid the misconception that the counseling program was a method of by-passing supervision.

## WOMEN SUPERVISORS

Whether women could be successfully used as supervisors was a question that has been answered affirmatively, in the Department's experience. They have been found to be entirely acceptable where the prerequisites of a good supervisor have been observed in their selection. Women who made good supervisors had the following qualities: ability to instruct and handle people, to schedule and outline work, and competence in job operation or performance.

## COMPLAINTS

Formal complaints from women were more infrequent than from men, information from installations indicated. Women usually considered themselves transients in industry and therefore tended to accept their environment or get out.

Also, they tended to have less patience when a complaint was registered and resented delay in settlement. If they were told during orientation about grievance machinery for settling complaints, and their complaint was accorded prompt attention later, less dissatisfaction appeared.

## SOCIAL ADJUSTMENT

If men in the shop were told in advance of the need for women and the jobs women were going to do and conditions under which they would work, instances of bad relations between sexes seemed few. However, poorly selected women suddenly introduced into the shop without previous knowledge on the part of men usually led to harshness or familiarity, and various forms of obstructionism, all of which defeated both good human relations and high production.

Historically men and women have met each other chiefly on a social level. In the urgency of war, and the large-scale participation of women in war work, there were few established standards of conduct for men and women in their new work relationship. Supervisors in the War Department have made important contributions in developing and observing standards of work relations for both sexes. Dignity, courtesy and good manners have been required of both male and female employees, as fellow-workers at the lathe and the wheel of industry fighting to meet war production goals.

# APPENDIX B

## PARTIAL LIST OF JOBS PERFORMED BY WOMEN IN WAR DEPARTMENT INDUSTRIAL ESTABLISHMENTS

- Administrative Assistant
- Administrative Officer
- Aircraft Armament Mechanic
- Aircraft Electrician
- Aircraft Engine Mechanic
- Aircraft Engine Test Operator
- Aircraft Fabric Worker
- Aircraft Inspector
- Aircraft Instrument Mechanic
- Aircraft Maintenance Supervisor
- Aircraft Mechanic
- Aircraft Painter
- Aircraft Propeller Mechanic
- Aircraft Sheet Metal Worker
- Aircraft Woodworker
- Ammonium Nitrate Crystallization
- Ammonium Nitrate Neutralization
- Ammonia Oxidation
- Ammonia Processes
- Ammunition Inspector
- Ammunition Proof Technician
- Analyst, Administrative
- Analyst, Economic
- Analyst, Research
- Arc Welder
- Auditor
- Automatic Arc Welder
- Automatic Screw Machine Operator
- Automatic Turret Lathe Operator
- Automotive Mechanic
- Ballistician
- Barrel Chamberer (50 Cal. & up)
- Barrel Driller (50 Cal. & up)
- Barrel Reamer (50 Cal. & up)
- Barrel Rifler (50 Cal. & up)
- Barrel Straightener (50 Cal. & up)
- Barrel Turner (50 Cal. & up)
- Benchman (Machinist)
- Benchman (Finish Filer)
- Bindery Worker
- Blacksmith
- Boring Mill Operator
- Broacher (Machine Operator)
- Carpenter
- Chemical & Filling Plant
- Cold Drop Forger
- Crane Operator
- Draftsman
- Electrician
- Electric Cable Splicer
- Electroplater
- Engine Test Operator
- Estimator, Production
- Examining Technician
- Filer and Polisher
- Fiscal Accountant
- Foreman
  - Aircraft Armament Mechanic
  - Aircraft Electrician
  - Aircraft Engine Mechanic
  - Aircraft Engine Test Operator
  - Aircraft Instrument Mechanic
  - Aircraft Mechanic
  - Aircraft Painter
  - Aircraft Propeller Mechanic
  - Aircraft Sheet Metal Worker
  - Aircraft Woodworker
  - Ammonium Nitrate Crystallization
  - Ammonium Nitrate Neutralization
  - Ammonia Oxidation
  - Ammonia Processes
  - Armament
  - Armorer
  - Assembly
  - Bindery Worker
  - Blacksmith
  - Carpenter
  - Chemical & Filling Plant
  - Electric Cable Splicer
  - Electrician
  - Electroplater
  - Garage
  - General
  - Inspector
  - Instrument Repairman
  - Leadburner
  - Leather & Canvas Worker
  - Machinist

- Maintenance
- Maintenance Sheet Metal
- Mechanical Trades
- Metal Spinner
- Millwright
- Molders
- Munition Handler
- Nitric Acid Absorption
- Painter
- Pattern Maker
- Pipefitter
- Plasterer
- Plumber
- Powerpress Operator
- Refrigeration Equipment Operator
- Renovation Plant
- Rigger
- Salvage
- Sheet Metal Worker
- Shop or Department
- Signal Builder
- Spray Painter
- Steamfitter & Pipefitter
- Structural Steel Worker
- Tractor
- Truck
- Welder

Forklift Operator
Gage Checker
Garageman
Gas & Electric Welder
General Machine Operator
Grinder
Hand Screw Operator
Horizontal Boring Mill Operator
Hydraulic Press Operator
Industrial Specialist
Instructor
Instrument Inspector
Instrument Maker
Instrument Repairman
Intricate Toolgrinder
Investigator
Laboratory Aide
Laboratory Assistant
Laboratory Mechanic
Lapping Machine Operator
Lathe Operator
Leather & Canvas Worker
Lens Grinder
Machinist
Machine Operator
Machine Shop Worker

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Maintenance
Maintenance, Sheet Metal
Metal Spinner
Miller
Millwright
Molder
Munition Handler
Nitric Acid Absorption
Ordnance Material Inspector
Organizational Analyst
Painter
Pattern Maker
Personnel Administrator
Personnel Officer
Personnel Technician
Photographer
Photo-lithographic Reproducer
Physicist
Pipefitter
Planer
Plant Protection Inspector
Plasterer
Plumber
Polisher (Finish)
Powder & Explosives Inspector
Powerpress Operator
Precision Optical Worker
Procurement Inspector
Profiler
Property & Supply Clerk
Purchasing Agent
Radial Drill Operator
Radio Mechanic Technician
Refrigeration Equipment Operator
Renovation Plant
Rigger Salva
Salvage
Shaper
Sheetmetal Worker
Slotter
Signal Builder
Spray Painter
Steamfitter & Pipefitter
Storekeeper
Structural Steel Worker
Surface Grinder
Tabulating Equipment Operator
Technician Proof, Ammunition
Tractor Operator
Toolgrinder
Transportation Rate Clerk
Truck Driver
Vertical Boring Mill Operator
Welder

WOMEN'S BUREAU
U.S. Department of Labor
Washington

Memo for Miss Anderson
from M.E.P.
Later used by her (with
slight revisions) for W.P.
Defense Com mtg
June 28(?)
Basis for article in W.W.
in Sept. 1940

## WOMEN AVAILABLE FOR WORK IN DEFENSE INDUSTRIES
## (June 1940)

### Numbers of Women Available

At least 1½ million women probably would be immediately available for defense work, at least a fifth of these already having the necessary skills. This includes those actively seeking work through the Employment Security Agency, and those now on W.P.A.

There is a large additional group who have only partial employment and would be available for further work. Indicated by the 1937 Census of Unemployment this would be at least ½ million. It is probable that this is not an overestimate for the present, since the most recent manufacturing employment indexes (March 1940) are below those of November 1937.

### Women Who Are Skilled

Well over 250,000 of the unemployed women are skilled and "semi-skilled", according to a recent preliminary report of the Employment Security Bureau. Of these skilled and "semi-skilled" women, 34 percent are in Middle Western States; 22 percent in Middle Atlantic States (excluding New York); 20 percent in New England States; 14 percent in South-Eastern States; 8 percent in Far Western and South Western States (excluding California).

Added to those unemployed and on W.P.A. work, there are large numbers of women now at work on jobs less skilled than they are accustomed to performing. These could quickly be called back to their more skilled occupations. Their number cannot be estimated.

Women do much of the skilled work in the manufacture of certain textiles and clothing, needed in a defense program. As these expand, additional women can be used in these types of work. For example, women comprise the following proportions of skilled workers:

| | Percent |
|---|---|
| Knitted outerwear | 76 |
| Hosiery (full-fashioned) | 52 |
| Knitted underwear | 30 |
| Boots and shoes (not rubber) | 22 |
| Cotton goods | 21 |

## Experience as to Types of Work Women Perform Well

1. Women excel in work requiring care and constant alertness, good eyesight, and use of light instruments, such as gauges, micrometers, vernier calipers - work calling for little physical exertion. These are characteristics of such jobs as inspection of castings, machinery and finished parts, of routine powder analysis, of testing electrical equipment.

2. Women excel at work requiring manipulative dexterity and speed but which permit them to set their own tempo and to work in a sitting position. These are characteristics of bench work calling for "laying out" work for machine operators, operating very small machines to finish small and irregular parts, assembling delicate instruments and machines, loading shells, filling powder bags.

3. Women excel in work requiring skill but little strength, either in handling parts or setting up of machines. These are characteristics of drilling machines, lathes, milling machines, grinding and polishing machines operating on small parts.

4. Women operate large machines successfully on heavy work when such work necessitates use of lifting devices and pneumatic chucks, whether work is done by men or women.

**WOMEN'S BUREAU**
**U.S. Department of Labor**
**Washington**

## SKILLED WOMEN WORKERS REPORTED BY THE BUREAU OF EMPLOYMENT SECURITY

Latest figures available are preliminary reports on skilled workers on the Employment rolls, April 1940.

These include 33 States; important industrial States omitted are California and New York.

### Skilled Women Workers Available:

| | |
|---|---|
| Total - | 250,089 |
| Technicians - | 2,468 |
| Skilled - | 59,731 |
| Semi-skilled - | 187,889 |

### Distribution in Chief Geographic Areas:

| | |
|---|---|
| Midwest - | 84,515 |
| Middle Atlantic (N.Y. missing) | 54,458 |
| New England (Me. missing) | 50,223 |
| South (east of Miss) (Miss. and Tenn. missing) | 35,269 |
| Far West and Southwest (Cal. missing) | 20,999 |

### Women Reported in Selected States:

| | Thousands | | Thousands |
|---|---|---|---|
| New Jersey | 31 | Indiana | 6 |
| Massachusetts | 28 | Minnesota | 6 |
| Pennsylvania | 22 | Washington | 5 |
| Ohio | 14 | Wisconsin | 5 |
| Illinois | 14 | Alabama | 4 |
| Michigan | 11 | Iowa | 3 |
| Missouri | 11 | Florida | 3 |
| North Carolina | 11 | New Hampshire | 2 |
| Nebraska | 11 | South Carolina | 2 |
| Texas | 10 | Vermont | 1 |
| Connecticut | 9 | West Virginia | 1 |
| Rhode Island | 8 | | |

WOMEN'S BUREAU
U.S. Department of Labor
Washington

## WOMEN IN SKILLED OCCUPATIONS
(As reported in recent B.L.S. studies)

| Industry | Percent skilled women are of - |  |
|---|---|---|
|  | All skilled workers | All women workers |
| Cotton goods | 21.0 | 13.9 |
| Boots and shoes (not rubber) | 22.3 | 15.4 |
| Hosiery, full fashioned | 51.8 | 59.5 |
| Knitted underwear | 30.4 | 4.7 |
| Knitted outerwear | 75.9 | 63.3 |

The foregoing includes the following occupations that were listed as skilled:

Cotton - Smash hands
Weavers
Hand drawers-in

Shoes - Machine cutters
Binding stitchers
Top stitchers
All-round stitchers
Vampers

Hosiery -Loopers
Seamers
Toppers
Menders
Miscellaneous knitters

Knitted underwear - Cutters, hand and machine
Knitters, circular and flat
Loopers

WOMEN'S BUREAU
U.S.Department of Labor
Washington

## WOMEN REPORTED FROM W.P.A. ROLLS

Latest available figures, reported to the Women's Bureau by telephone, are for April 1940

Women available - 331,003

WOMEN'S BUREAU
U.S. Department of Labor
Washington

## WOMEN ON EMPLOYMENT SECURITY ROLLS, APRIL 1938

| | |
|---|---|
| Total 1/ | 1,376,831 |
| Manufacturing 1/ | 392,459 |
| Textiles and their products | 191,387 |
| Food and allied | 55,424 |
| Machinery (not transportation) | 29,603 |
| Leather and its products | 15,872 |
| Iron and steel (not machinery) | 13,186 |
| Printing and publishing | 12,701 |
| Chemicals | 9,033 |
| Non-ferrous metals | 9,001 |
| Transportation equipment | 8,871 |
| Paper and allied | 7,246 |
| Stone, clay and glass | 5,930 |
| Rubber products | 5,563 |
| No recent work experience | 363,101 |
| Personal and domestic service | 354,128 |
| Distribution | 117,152 |

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1/ Total exceeds details shown here.

# LIST OF SELECTED DEFENSE OCCUPATIONS

(In Occupations, The Vocational Guidance Magazine, November, 1940, pages 121-124.)

## Professional and Kindred

Architect, Marine
Metallurgist II
Engineer, Electrical
Engineer, Cable (tel. & tel.)
Engineer II, Mechanical
Engineer, Aeronautical
Sign Writer, Hand (any ind.)
Detailer II
Draftsman, Aeronautical
Draftsman, Architectural
Draftsman, Construction
Draftsman, Electrical
Draftsman, Heating and Ventilating
Draftsman, Landscape
Draftsman, Map
Draftsman, Marine
Draftsman, Mechanical
Draftsman, Plumbing
Draftsman, Refrigeration
Draftsman, Structural
Draftsman, Topographical
Tracer IV
Designer, Tool
[illegible]

## Other

Designer, Die (mach. shop)
Inspector II, Boiler
Engineer, Chief, Marine (water transp.)
Engineer, Port (water transp.)
Engineer, Tugboat (water transp.)
Engineer V (water transp.)
Stableman (any ind.)
Ropemaker I (cord & twine)
Operator, Planer IV (woodworking)
Millman (woodworking)
Woodworker, Airplane (aircraft mfg.)
Upholsterer II (furn.; ship & boat bldg., & rep.)
Cooper I (cooperage)
Operator (print. & publishing)
Operator, Monotype-Keyboard (print. and pub.)
Bender, Glass (signs)
Jeweler (jewelry; ret. trade)
Operator, Fox-Lathe (clock & watch)

Other (continued)

Underturner (clock & watch)
Cutter, Wheel (clock & watch)
Caser III (clock & watch)
Trainer II (clock & watch)
Finisher (clock & watch)
Die Maker III (textile)
Plater I (electroplating)
Machinist II (mach. shop)
Machinist, Bench (mach. shop)
Lay-Out Man (foundry)
Machinist, Marine (ship & boat bldg. & rep.)
Job Setter II (mach. shop)
Die Maker II (mach. shop)
Die Setter, Drop Forge (forging)
Maker, Tool (mach. shop)
Inspector, Tool (mach. shop)
Operator, Engine-Lathe (mach. shop)
Operator, Speed-Lathe (mach. shop)
Operator, Turret-Lathe (mach. shop)
Operator, Vertical-Turret-Lathe (mach. shop)
Operator II, Milling-Machine (mach. shop)
Operator, Boring Mill (mach. shop)
Operator, Boring & Milling Machine, Horizontal (mach. shop)
Operator, Jig Boring Machine (mach. shop)
Operator I, Shaper (mach. shop)
Operator, Portable Shaper (mach. shop)
Operator II, Planer (mach. shop)
Operator, Profiling-Machine (mach. shop)
Operator, Gear-Generator (mach. shop)
Operator, Gear-Hobber (mach. shop)
Operator, Gear-Milling-Machine (mach. shop)
Operator, Gear-Shaper (mach. shop)
Axle Turner, Finishing (loco & car bldg. & rep.)
Barrel Reamer (firearms)
Barrel Chamberer (firearms)
Barrel Driller (firearms)
Barrel Rifler (firearms)
Filer, Machine (mach. tool & acces.)
Operator, Honing-Machine (mach. shop)
Operator, Cylindrical-Grinder (mach. shop)
Operator, Internal-Grinder (mach. shop)
Operator, Surface-Grinder (mach. shop)
Inspector (mach. shop)
Babbitter II (loco & car bldg. & rep.; mach. shop)
Sheet Metal Worker II (sheet metal)
Lay-Out Man, Sheet Metal (sheet metal)
Sheet-Metal Worker, Aircraft (aircraft mfg.)
Molder, Bench (foundry)
Molder, Finish(foundry)
Molder, Floor (foundry)
Molder, Pattern (foundry)
Molder, Machine, Squeeze (foundry)
Coremaker I (foundry)
Sand-Control Man (foundry)
Boilermaker (boilermaking)
Worker, Structural Steel (const.)
Worker, Metal-Tank (const.)
Riveter, Pneumatic II (const. ship & boat bldg. & repair)
Assembler (ship & boat bldg. & repair)
Ironworker, Ordnance (gov. ser.)
Welder, Arc (any ind.)
Welder, Acetylene (any ind.)
Welder, Combination (any ind.)
Blacksmith II (forging)
Operator II, Drop-Hammer (forging)
Hammersmith (forging)
Operator, Four-Column-Hydraulic-Press (forging)
Operator, Sectional-Hydraulic-Press (forging)
Horseshoer (any ind.)
Heat Treater II (heat treat.)
Case-Hardener (heat treat.)
Hardener II (heat treat.)
Hardener, Tool (heat treat.)
Temperer V (heat treat.)
Operator II, Switchboard (heat treat.)
Inspector, Hardness (heat treat.)
Roller (nonfer. metal alloys & prod.)
Roller, Barrel (firearms)
Roller, Bar Mill (iron & steel)
Drawer, Tube (iron & steel)
Welder, Butt, Tube (iron & steel)
Bender I, Tube (iron & steel)
Operator, Bending Roll (forging)
Feeder VI (ore dress., smelt., & refin.)
Blower, Blast-Furnace (iron & steel)
Keeper, Blast-Furnace (iron & steel)
Cupola Tender (found.)
Operator, Upright Converter (ore dress., smelt., & refin.)

## Other (Continued)

Heater, Manganese (iron & steel)
Operator, Electric-Arc.-Furnace (found.)
Operator, Reverberatory-Furnace (found.)
Furnaceman, Residue (ore dress., smelt., & refin.)
Scruffman, Tinhouse (iron & steel)
Furnace Tender, Coke or Coal (found.)
Operator, Tilting-Furnace (found.)
Ladle Man, First (iron & steel)
Caster, Lead (ore dress., smelt., & refin.)
Assembler III, Lock (hardware)
Burner, Lead (const.; petrol. refin.; ship & boat bldg. & rep.)
Electrician (any ind.)
Electrician, Ship (ship & boat bldg. & repair)
Electrician, Shop (ship & boat bldg. & repair)
Electrician, Yard (ship & boat bldg. & repair)
Electrician, Machine Shop (mach. shop)
Repairman, Electrical (any ind.)
Electrician, Power House (light, heat & power)
Electrician, Airplane (aircraft mfg.)
Tester, Electrician II (radio mfg.)
Inspector, Grid II (radio mfg.)
Quartz Cutter (radio Mfg.)
Aliner, Radio-Chassis (radio mfg.)
Assembler, Special Radio Equipment (radio mfg.)
Winder, Field-Coil I (any ind.)
Winder, Magnet (elec. equip.)
Assembler, Commutator (elec. equip.)
Assembler, Rotor (elec. equip.)
Assembler, Rotor-Core (elec. equip.)
Rebuilder, Transformer (any ind.)
Balancer, Dynamic (elec. equip.)
Balancer, Static (elec. equip.)
Tester, Final (elec. equip.)
Repairman, Electrical Instrument (any ind.)
Instrument Maker I (elec. equip.)
Coverer, Airplane (aircraft mfg.)
Fabric Worker I (aircraft mfg.)
Builder, Fuselage-Frame (aircraft mfg.)
Builder, Rib-Frame (aircraft mfg.)
Builder, Spar (aircraft mfg.)
Builder, Tail-Surface-Frame (aircraft mfg.)
Builder, Wing-Frame (aircraft mfg.)
Inspector, Airplane (aircraft mfg.)
Instrument Man (air trans.)
Inspector, Hull (ship & boat bldg. & rep.)
Rigger, Ship (ship & boat bldg. & rep.)
Inspector (optical goods)
Lens Grinder (optical goods)
Lens Polisher (optical goods)
Instrument Maker II (optical goods)
Pumpman IX (signs)
Painter, Automobile (auto ser.)
Patternmaker, Metal (found)
Patternmaker, Wood (found.; plan mill)
Lay-Out Man, Pattern (found.)
Model Maker II (firearms)
Loftsman II (ship & boat bldg. & repair)
Template Maker III (ship & boat bldg. & repair)
Ship Fitter (ship & boat bldg. & repair)
Bricklayer, Refractory Brick (found.; iron & steel)
Tile Setter II (const.)
Form Builder II (const.)
Timberman II (const.)
Boatbuilder, Wood (ship & boat bldg. & repair)
Carpenter, Ship (ship & boat bldg. & repair)
Joiner VI (ship & boat bldg. & repair)
Cement Finisher II (const.)
Painter, Sign (any ind.)
Pipe Fitter (const.)
Plumber (const.)
Steam Fitter (const.)
Asbestos Worker, General (const.)
Engineer, Locomotive II (r.r. trans.)
Operator, Electric-Locomotive (r.r. trans.)
Engineer, Power-House (any ind.)
Operator, Switchboard III (light, heat & power)
Wire Chief I (tel. & tel.)
Wire Chief II (tel. & tel.)
Tester, Electrical I (light, heat & power)
Cable Splicer II (const.; light, heat & power; tel. & tel.)
Engineer, Stationary (any ind.)
Engineer, Refrigerating (any ind.)
Operator, Electric-Bridge-Crane (any ind.)
Operator, Electric-Monorail-Crane (any ind.)
Operator, Locomotive-Crane (any ind.)
Hoistman I (anth. coal mining; bit. coal mining; metal mining; nonmetal mining)

## Other (Continued)

Engineer, Hoisting II (any ind.)
Millwright (any ind.)
Brakeman, Air II (loco. & car bldg. & rep.)
Carman V (loco. & car bldg. & rep.)
Emergency Man (r.r. trans.)
Inspector, Salvage (loco & car bldg. & rep.)
Repairman, Engine (loco. & car bldg. & rep.)
Repairman, Tank-Car (loco. & car bldg. & rep.)
Inspector, Tender-Truck-Repairman (loco. & car bldg. & rep.)
Repairman, Signal-Service (r.r. trans.)
Mechanic, Airplane (air trans.)
Mechanic, Engine-Service (air trans.)
Carburetor Man I (air trans.)
Mechanic, Propeller (air trans.)
Rigger, Airplane (aircraft mfg.)
Mechanic, Automobile (auto.ser.)
Repairman, Motorcycle (auto.ser.)
Mechanic, Truck (auto ser.)
Mechanic, Tractor (any ind.)
Operator, Brake-Drum-Lathe (auto.ser.)
Brakeman, Automobile (auto.ser.)
Mechanic, Wheel Alinement (auto.ser.
Repairman, Automobile-Generator (auto. ser.)
Electrician, Automotive (auto. ser.)
Automobile-Radiator Man (auto. ser.)
Automobile-Mechanic Motor I (auto.mfg.)
Analyst, Motor (auto.ser.)
Inspector, Motor & Chassis (auto. mfg.)
Serviceman, Automobile-Repair (auto. ser.)
Tester, Automobile (auto. ser.)
Serviceman, Typewriter (any ind.)
Set-Up Man, Machine IV (woodworking)
Repairman, Radio I (any ind.)
Trouble Shooter VI (radio mfg.)
Serviceman, Public-Address (any ind.)
Analyst, Electric-Motor (any ind.)
Assembler and Tester, Electric-Motor (any ind.)
Repairman, Electric-Motor (any ind.)
Armorer (firearms)
Gunsmith (any ind.)
Mechanic, Maintenance II (any ind.)
Machinist, Marine-Gas-Engine (ship & boat bldg. & rep.)
Repairman, Camera I (any ind.)
Repairman, Elevator (any ind.)
Calker, Wood (ship & boat bldg. & rep.)
Tool Dress I (any ind.)
Operator, Tool-Grinder (mach. shop)
Rigger III (cement; const.)
Rigger, Crane (ship & boat bldg. & rep.)
Diver (const.)
Blower, Bessemer-Converter (iron & steel)
Shaper, Hand (furn.)
Leather Worker II (firearms)
Chain Maker, Hand (jewelry)
Galvanizer (any ind.)
Buffer I (any ind.)
Grinder (auto. mfg.)
Filer (hand (hardware)
Metal Finisher, Hand Filing (auto. mfg.)
Operator, Turret-Lathe, Automatic (mach. shop)
Operator, Milling Machine, Automatic (auto. mfg.)
Operator, Broaching-Machine (mach. shop)
Operator, Multiple-Spindle-Drill-Press (mach. shop)
Operator, Radial-Drill-Press (mach. shop)
Operator, Single-Spindle-Drill-Press (mach. shop)
Operator, Gun-Barrel-Drill (auto. mfg.)
Gear-Tooth Rounder (mach. shop)
Gear-Tooth Grinder (auto. mfg.)
Barrel Threader (firearms)
Assembler, Electrical (elec. equip.)
Molder, Machine, Jarring (found.)
Molder, Machine, Stripping Plate (found.)
Operator, Sand-Slinger (found.)
Coremaker, Machine I (found.)
Coremaker, Machine II (found.)
Coremaker, Machine III (found.)
Core Paster (found.)
Operator Core-Oven (auto. mfg.)
Core-Oven Tender (found.)
Core Checker (found.)
Carpenter, Flask (found.)
Flask Maker, Metal (found.)
Operator, Sandblast-or-Shotblast-Tumbler (found.)
Sandblaster I (any ind.)
Chipper, Foundry (found.)
Burners, Lead (found.)
Tank Tester (ship & boat bldg. & repair)
Bucker-Up III (const.; ship & boat bldg. & repair)

## Other (Continued)

Rivet Catcher (const.)
Rivet Heater (const.; ship & boat bldg. & repair)
Rivet Heater, Electric (loco. & car bldg. & rep.)
Rivet Heater, Gas (auto. mfg.; boilermaking; loco. & car bldg. & rep.)
Steel-Plate Calker (boilermaking; const.; ship & boat bldg. & rep.)
Welder, Butt (any ind.)
Welder, Flash (any ind.)
Operator, Acetylene-Burner (any ind.)
Operator, Drop-Hammer I (forging)
Operator, Forging-Press (forging)
Furnace Tender, Heat Treating (heat treat.)
Sticker (nonfer. metal alloys & prod.)
Operator, Arbor-Press (any ind.)
Operator, Straightening Press (any ind.)
Operator, Punch-Press I (any ind.)
Operator, Punch-Press II (boilermaking; forging; loco. & car bldg. & rep.)
Operator, Punch-Press, Automatic (any ind.)
Operator, Punch-Press, Hand (any ind.)
Operator, Forming Press (any ind.)
Hammersmith Helper (forging)
Operator, Trimming Press II (forging)
Heater, Forge (forging)
Operator, Flanging-Press (auto. mfg.; boilermaking; ship & boat bldg. & repair)
Operator, Flanging-Press, Helper boilermaking)
Charge-Floor Man, Blast Furnace I (ore dress., smelt. & refin.)
Operator, Singer-Machine (iron and steel)
Cupola Charger I (found.)
Cupola Charger II (found.)
Cupola Tapper (found.)
Pourer, Buggy Ladle (found.)
Pourer, Crane Ladle (found.)
Ladle Man, Second (iron and steel)
Tapper II (ore dress., smelt. & refin.)
Operator, Stranding-Machine (elec. equip.; wirework)
Inspector, Spring (auto. mfg.)
Operator, Star-Gage (firearms)
Crystal Grinder, Finished (radio mfg.)
Mold Maker Vii (radio mfg.)
Operator, Universal-Winding Machine (radio mfg.)
Winder, Armature I (elec. equip.)
Bander, Armature (any ind.)
Welder, Filament (radio mfg.)
Molder, Lead-Parts (elec. equip.)
Vulcanizer I (elec. equip.)
Inspector, Carburetor (auto. mfg.)
Assembler, Final I (aircraft mfg.)
Painter, Spray I (any ind.)
Ladle Liner (found.; iron & steel)
Shorer (const.)
Reinforcing-Iron Worker (const.)
Calker, Pipe (const.)
Packer, Parachute (air trans.)
Repairman, Parachute (air trans.)
Wireman, Plant (tel. & tel.)
Repairman, Streetcar (loco. & car bldg. & repair)
Aerial-Installation Man (any ind.)
Radio Installer, Automobile (auto. ser.)
Try-Out Man, Electric (auto. mfg.)
Repairman, Mine-Car (anth. coal mining; bit. coal mining; metal mining; nonmetal mining)
Tool Dresser II (any ind.)
Tool Grinder II (any ind.)
Filer, Saw, Hand (any ind.)
Filer, Saw, Machine (any ind.)
Cable Splicer I (any ind.)

Confidential until
publication by C.S.C.

Miss Hooks

## DEFENSE JOBS WHICH WOMEN ARE OCCUPYING

NUTRITION EXPERTS

DIETITIANS

NURSES

PERSONNEL DIRECTORS

ADMINISTRATIVE

CLERICAL

STENOGRAPHER

TYPIST

WRITERS

TRAINING COORDINATORS

SUPERVISORS

SECTION CHIEFS

BUYERS OF MATERIALS

LABORATORY TECHNICIANS

CRYPTANALYST

LAUNDRY ASSISTANTS

INSPECTORS OF TEXTILES

SEWING MACHINE OPERATORS

EXPLOSIVES OPERATORS

PARACHUTE WORKERS

MACHINE OPERATORS

TOXICOLOGISTS

PHARMACOLOGISTS

RECEPTIONISTS

DRAFTSWOMEN

ECONOMISTS

LIBRARIANS

CARTOGRAPHIC ENGINEER

### AERONAUTICS

Public Information
Press Relations
Air Marking
Pilots
Flying Specialist
Ground Service Training
Airplane Painting
Aircraft Fabric Workers

### AGRICULTURE

Nutrition Specialists and School Lunch Programs
Field Specialists working on food preparation and dietetic problems
Home Economists
Dress Research

### WAR

Gas Mask Inspectors
Designers of Military Insignia
Manufacturers of Army Articles - equipment and clothing.
Hospital and Mess Attendants
Laboratory Technicians
Fuse Workers - Machine Operators

### NAVY

Powder Bag Makers
Workers on cartridge and artillery shell parts.
Astronomers
Cryptologists

# WOMEN OCCUPYING DEFENSE JOBS

Food Consultant to the Quartermaster Corps, Office of Production Management. Advises Army how to serve three million meals a day. Only dollar-a-year women in the Federal service. Loaned to the Government by the Kellogg Company of Battle Creek, Michigan, where she is head of the home economics department. d

Chief, Division of Textiles and Clothing, United States Department of Agriculture. Advises on uniforms for women in defense industries, stripping them of such hazards as ties and frills; equips them with flat pockets and waterproof sleeves. These are some of the present style trends from her research laboratories. c

Assistant Director, Office of Government Reports. In charge of large staff of workers who prepare daily summaries of stories of Federal activities which appear in newspapers throughout the nation for distribution to all Government offices; also prepares weekly surveys of similar stories appearing in magazines, periodicals, and publications. Maintains clipping service for use of Government offices. c

Commissioner in Charge of Consumer Protection, Office of Price Administration and Civilian Supply, The Advisory Commission to the National d a
Responsible
sumer needs.

raining
ion
power
work;
unches
tivities
t Security,
inistration,
servation
prenticeship c

No. 203

a. Brand new type of job 1/8

b. Type of job not new, but a new job because of defense 2

c. Jobs that were there before, but now do some def. work 13

d. Jobs not paid (or dollar a year) 21

24

DEPARTMENT OF LABOR

# WOMEN OCCUPYING DEFENSE JOBS

Food Consultant to the Quartermaster Corps, Office of Production Management. Advises Army how to serve three million meals a day. Only dollar-a-year women in the Federal service. Loaned to the Government by the Kellogg Company of Battle Creek, Michigan, where she is head of the home economics department.

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Commissioner in Charge of Consumer Protection, Office of Price Administration and Civilian Supply, The Advisory Commission to the Council of National Defense, Office of Emergency Management. Responsible for the protection of the consumer and consumer needs.

Special Assistant, Labor Supply and Training Section, Labor Division, Office of Production Management. Determines in advance the manpower necessary for carrying out defense industry work; surveys resources already available, and launches training programs. Coordinates training activities of Office of Education, Bureau of Employment Security, Federal Security Agency, National Youth Administration, Works Progress Administration, Civilian Conservation Corps, Civil Service Commission, and the Apprenticeship Unit, Department of Labor.

Field Representative, Field Operations Section, Division of State and Local Cooperation, Office of Emergency Management. Wide authority to visit various States and discuss with groups ways and means by which women can work in the activities of State and Local Defense Councils. a

Acting Chief, Reports and Statistics Section, Division of State and Local Cooperation, Office of Emergency Management. Responsible for the preparation of reports, publications, special studies, articles and other material issued by the Division in official bulletins, and for publication in DEFENSE. X Gathers, and makes available, information on the operation of State and Local Defense Councils; also information on defense developments which concern State and local government. b

Assistant Commissioner of Education, Office of Education, Federal Security Agency. Cooperates with the Advisory Commission to the Council of National Defense and the several State Boards for Vocational Education in the furtherance of the education and training of defense workers. c

Assistant Commissioner, Works Progress Administration. Directs community service projects pertaining to the defense program. Conducts occupational training projects preparing many thousands of workers for employment in defense industries. c

Advisor for Civic Projects, Office of Coordinator of Commercial and Cultural Relations between the American Republics, Office of Emergency Management, Council of National Defense. a? (ord?)

Special Assistant to the Chief, Procurement Division, Treasury Department. Engages in buying defense materials, particularly in connection with the activities of the Lease-Lend Bill. c

Commissioner United States Civil Service Commission. Recruiting for all types of employment connected with the National Defense Program. Twenty-four hour service in certifying eligibles to War and Navy Departments. c

Director of Nutrition, Office of the Coordinator of Health, Welfare and Related Defense Activities, Office of Emergency Management. In charge of educational program to encourage people to make better use of the food on hand, and to raise the morale of the country as a whole by increasing physical fitness of citizens. a

Chief of Personnel, Office of Production Management. x a

Nurse Consultant, Office of Production Management. Charged with the responsibility of placement of women workers coming to Washington, D. C., in proper living quarters; provides means of transportation; advises on health, recreation, and money matters. Makes it possible for incoming workers to arrange quarters in advance. V a

Chief of Public Information, Civil Aeronautics Board, United States Department of Commerce. Responsible for dissemination of public information such as press and news releases, on air activities. Issues Safety Bulletins. Analyzes reports on air accidents with the idea of bringing home to flyers the things they should or should not do, in order to increase efficiency in air and eliminate accidents. b

Senior Private Flying Specialist, Civil Aeronautics Board, United States Department of Commerce. Has completed 11,000 mile journey over country arranging for immediate expansion of classes for airport "ground servicement" to forestall possible shortage of efficient ground men to meet increased demand which will be brought about by expanded aviation programs. a

Air Marketing Specialist, CivilAAeronautics Administration, United States Department of Commerce. Pilot. In charge air marking program as aid to air navigation, particularly in those parts of the country where air corps flying schools are engaged in the training of student flyers as pilots. c ?

Chief, Press Relations, Civil Aeronautics Administration, United States Department of Commerce. In charge of press releases and preparation of material on the subject of aviation for publication. W R Hauser C

Chief of the Women's Bureau, United States Department of Labor. Concerned with the standards of employment of women in defense industries. Miss Anderson c

Promotion Specialist, United States Treasury Department. Promotes sale of defense bonds and stamps among women and children's organizations. ✓ a

Cryptanalyst-in-Charge, U. S. Coast Guard, Treasury Department. Mrs. Fried c

Assistant Treasurer of the United States, Treasury Department. Mrs Ross c

Chief, Bureau of Home Economics, U. S. Department of Agriculture. Study and experiments into bread-making for military forces. Increasing vitamin content of foods; preservation of food stuffs. Nutrition studies. Mrs Stanley c

Miss Pidgeon:

In accordance with telephone conversation of this morning to Mr. Masincup, we are sending you the tentative lists attached.

W. Earl Masincup

| | | |
|---|---|---|
| Metal - | 236 | (incl. auto) |
| Elec | 153 | |
| Trans Eq | 192 | (~~auto~~ aircraft ship) |
| Total | 581 | titles |

442

NOT FOR RELEASE

PSAD-118
2/13/41

Rec'd by WB Apr. 25,
(Confidential)

## DEFENSE OCCUPATIONS SUITABLE FOR WOMEN

### Part I. Metalworking Occupations

In order to facilitate replacement of male workers by females in event of war or national emergency causing a drain on manpower, a study has been made to ascertain what jobs in industry could be filled satisfactorily by women.

The so-called Metal Trades industry (in reality a group of related industries) was the first studied, both because of its importance and because it crosses industrial lines, thereby affording a good cross-section to indicate what may be expected in other industries.

Many of the occupations in this list will surprise the casual observer, but contrary to popular belief women have been found satisfactory in virtually every kind of job ordinarily filled by men. *It cannot be said categorically that any particular job is absolutely unsuitable for women.*

Nevertheless, an attempt was made in compiling this list to eliminate all jobs that seemed to require great physical strength or in which working conditions were extremely unpleasant.

Although World War experience proved that women could become just as skilled as men in the operation of metalworking machines, the more highly skilled occupations have been left out of this list when lesser skills in the same job were listed in the *Dictionary of Occupational Titles*. This was done because women - or men, for that matter - must gain experience in the lower skill levels before qualifying for the higher skills. They cannot be trained sufficiently to step immediately into the top rank. Experience is indispensable.

Where no lower levels of skill in certain jobs could be found in the *Dictionary*, the skilled occupations were listed, but preceded by an (x). This mark indicates that women could be readily trained for a semi-skilled work of the same general description.

Of course, it is quite possible that workers in some of the jobs listed might occasionally be required to do work too arduous for the average women, but it is felt that sufficient male workers could be kept on hand for such heavy work or that women of unusual strength could be employed.

Titles preceded by asterisks are tentative, the definitions having been prepared since the *Dictionary* was published.

TENTATIVE

## METALWORKING OCCUPATIONS

| Code | Title | | |
|---|---|---|---|
| 4-71.010 | JEWELER | (jewelry; ret. tr.) | (x) |
| 4-71.510 | WATCHMAKER | (any ind.) | (x) |
| 4-72.011 | FOX-LATHE OPERATOR | (clock & watch) | |
| 4-72.012 | UNDERTURNER | (clock & watch) | |
| 4-72.013 | WHEEL CUTTER | (clock & watch) | |
| 4-72.111 | CASER III | (clock & watch) | |
| 4-72.112 | TRAINER II | (clock & watch) | |
| 4-72.211 | FINISHER | (clock & watch) | |
| 4-72.212 | TIMER I | (clock & watch) | |
| 4-72.318 | SOLDERER III | (jewelry) | |
| 4-73.010 | ENGRAVER, HAND IV | (textile) | (x) |
| 4-73.040 | DIE MAKER III | (textile) | (x) |
| 4-73.210 | ENGRAVER, BLOCK | (textile) | (x) |
| 4-73.310 | ETCHER, HAND III | (firearms) | (x) |
| 4-73.410 | CHASER II | (jewelry) | (x) |
| 4-73.510 | ENGRAVER I | (print. & pub.) | (x) |
| 4-73.520 | PANTOGRAPHER II | (textile) | (x) |
| 4-73.620 | ENGRAVER, MACHINE | (textile) | (x) |
| 4-73.910 | ROLLER REPAIRMAN II | (textile) | (x) |
| 4-73.920 | ROLLER INSPECTOR | (textile) | (x) |
| 4-74.010 | PLATER I | (electroplating) | |
| 4-74.110 | TINNER, AUTOMATIC | (iron and steel) | (x) |
| 4-75.120 | MACHINIST, BENCH | (mach. shop) | (x) |
| 4-75.140 | LAY-OUT MAN | (found.) | |
| 4-76.010 | DIE MAKER II | (mach. shop) | (x) |
| 4-77.010 | Barrel Polisher, Inside | (firearms) | |
| 4-78.031 | MILLING-MACHINE OPERATOR II | (mach. shop) | (x) |
| 4-78.041 | BORING-MILL OPERATOR | (mach. shop) | (x) |
| 4-78.042 | HORIZONTAL-BORING-AND-MILLING-MACHINE OPERATOR | (mach. shop) | (x) |
| 4-78.043 | JIG-BORING-MACHINE OPERATOR | (mach. shop) | (x) |
| 4-78.061 | SHAPER OPERATOR I | (mach. shop) | (x) |
| 4-78.071 | PLANER OPERATOR II | (mach. shop) | (x) |
| 4-78.211 | BARREL REAMER | (firearms) | |
| 4-78.212 | BARREL CHAMBERER | (firearms) | |
| 4-78.213 | *BARREL DRILLER | (firearms) | |
| 4-78.214 | *BARREL RIFLER | (firearms) | |
| 4-78.291 | FILER, MACHINE | (mach. tool & access.) | (x) |
| 4-78.671 | INSPECTOR | (mach. shop) | (x) |
| 4-80.020 | SHEET-METAL LAY-OUT MAN | (sheet metal) | (x) |
| 4-81.010 | MOLDER, BENCH | (found.) | |
| 4-82.010 | COREMAKER I | (found.) | (x) |
| 4-84.620 | STRUCTURAL-STEEL LAY-OUT MAN | (struct. & ornam. metal work) | (x) |
| 4-87.210 | CASE-HARDENER | (heat treat.) | (x) |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | | |
|---|---|---|---|
| 4-87.220 | HARDENER II | (heat treat.) | (x) |
| 4-87.230 | TOOL HARDENER | (heat treat.) | (x) |
| 4-87.310 | TEMPERER V | (heat treat.) | |
| 4-87.410 | SWITCHBOARD OPERATOR II | (heat treat.) | |
| 4-87.910 | HARDNESS INSPECTOR | (heat treat.) | (x) |
| 4-88.027 | *BARREL ROLLER | (firearms) | |
| 4-88.624 | *GOGGLE-PRESS OPERATOR | (aircraft mfg.) | (x) |
| 4-90.011 | AMALGAMATOR I | (ore dress., smelt., & refin.) | |
| 4-90.021 | REAGENT MAN | (ore dress., smelt., & refin.) | |
| 4-90.211 | JIG RUNNER II | (ore dress., smelt., & refin.) | |
| 4-90.511 | FLOTATION MAN | (ore dress., smelt,, & refin.) | |
| 4-93.371 | LOCK ASSEMBLER III | (hardware) | |
| 4-93.771 | ASSEMBLER | (firearms) | |
| 4-93.772 | BARREL STRAIGHTENER | (firearms) | |
| 4-93.773 | TESTING-MACHINE OPERATOR II | (firearms) | |
| 4-94.201 | SPINNER IV | (furn., mach. shop) | |
| 4-94.351 | CASE ASSEMBLER I | (agric. equip.) | (x) |
| 4-94.511 | GAS CHARGER | (refrigerat. equip.) | |
| 4-94.512 | REFRIGERATOR TESTER | (refrigerat. equip.) | (x) |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | |
|---|---|---|
| 6-72.011 | PINION CUTTER | (clock & watch) |
| 6-72.012 | PINION POLISHER | (clock & watch) |
| 6-72.111 | STAKING-MACHINE OPERATOR | (clock & watch) |
| 6-72.211 | MATCHER | (clock & watch) |
| 6-72.312 | ASSEMBLER | (jewelry) |
| 6-72.315 | CHAIN MAKER, HAND | (jewelry) |
| 6-72.316 | CHAIN MAKER, MACHINE | (jewelry) |
| 6-72.317 | DRILLER III | (jewelry) |
| 6-72.318 | DROP HAND | (jewelry) |
| 6-72.321 | RIVETER III | (jewelry) |
| 6-72.322 | TURNER VI | (jewelry) |
| 6-72.551 | INSPECTOR | (jewelry) |
| 6-74.010 | *ANODIC OPERATOR | (electroplating) |
| 6-74.110 | GALVANIZER | (any ind.) |
| 6-74.210 | ASSORTER VI | (iron & steel) |
| 6-77.010 | BRUSHER | (hardware) |
| 6-77.020 | BUFFER I | (any ind.) |
| 6-77.040 | GRINDER | (auto. mfg.) |
| 6-77.060 | POLISHER II | (any ind.) |
| 6-77.080 | SPOT POLISHER | (auto. mfg.) |
| 6-77.320 | BURNISHER, HAND | (any ind.) |
| 6-77.510 | BURRER, HAND | (mach. shop) |
| 6-77.520 | FILER, HAND | (hardware) |
| 6-77.530 | METAL FINISHER, HAND FILLING | (auto. mfg.) |
| 6-77.710 | BENCH GRINDER | (any ind.) |
| 6-77.750 | GUIDE GRINDER | (iron & steel) |
| 6-78.011 | *ENGINE-LATHE OPERATOR II | (mach. shop) |
| 6-78.021 | TURRET-LATHE OPERATOR AUTOMATIC | (mach. shop) |
| 6-78.031 | MILLING-MACHINE OPERATOR AUTOMATIC | (auto. mfg.) |
| 6-78.041 | BORING-MACHINE OPERATOR AUTOMATIC | (mach. mfg.) |
| 6-78.051 | BROACHING-MACHINE OPERATOR | (mach. shop) |
| 6-78.081 | MULTIPLE-SPINDLE-DRILL-PRESS OPERATOR | (mach. shop) |
| 6-78.082 | RADIAL-DRILL-PRESS OPERATOR | (mach. shop) |
| 6-78.083 | SINGLE-SPINDLE-DRILL-PRESS OPERATOR | (mach. shop) |
| 6-78.084 | GUN-BARREL-DRILL OPERATOR | (auto mfg.) |
| 6-78.111 | *PROFILING-MACHINE OPERATOR II | (mach. shop) |
| 6-78.121 | INTERNAL-KEYSEATING-MACHINE OPERATOR | (mach. shop) |
| 6-78.131 | GEAR-TOOTH ROUNDER | (mach. shop) |
| 6-78.132 | GEAR-TOOTH GRINDER | (auto. mfg.) |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | | |
|---|---|---|---|
| 6-78.133 | *GEAR-GENERATOR OPERATOR II | (mach. shop) | |
| 6-78.134 | *GEAR-HOBBER OPERATOR II | (mach. shop) | |
| 6-78.135 | *GEAR-MILLING-MACHINE OPERATOR II | (mach. shop) | |
| 6-78.136 | *GEAR-SHAPER OPERATOR II | (mach. shop) | |
| 6-78.141 | BOLT-THREADING-MACHINE OPERATOR | (any ind.) | |
| 6-78.142 | TAPPING-MACHINE OPERATOR III | (mach. shop) | |
| 6-78.143 | THREAD-MILLING-MACHINE OPERATOR | (mach. shop) | |
| 6-78.144 | SCREW-MACHINE OPERATOR, SEMI-AUTOMATIC | (mach. shop) | |
| 6-78.151 | BARRELL CENTERER | (firearms) | |
| 6-78.152 | CENTERING-MACHINE OPERATOR | (mach. shop) | |
| 6-78.161 | CENTER-DRIVE-LATHE OPERATOR | (auto. mfg.) | |
| 6-78.162 | COMMUTATOR FINISHER | (any ind.) | |
| 6-78.164 | LATHE OPERATOR, AUTOMATIC I | (auto. mfg.) | |
| 6-78.165 | STUB-LATHE OPERATOR | (auto. mfg.) | |
| 6-78.211 | GROOVING-MACHINE OPERATOR I | (auto. mfg.) | |
| 6-78.213 | REAMING-MACHINE OPERATOR I | (auto. mfg.) | |
| 6-78.281 | *ROUTER OPERATOR III | (aircraft mfg.) | |
| 6-78.291 | BARRELL THREADER | (firearms) | |
| 6-78.292 | MULTIPURPOSE-MACHINE OPERATOR | (auto. mfg.) | |
| 6-78.411 | BEARING HONER | (auto. mfg.) | |
| 6-78.412 | HONING-MACHINE OPERATOR, SEMI-AUTOMATIC | (auto. mfg.) | |
| 6-78.413 | LAPPING-MACHINE OPERATOR | (mach. shop) | |
| 6-78.511 | CENTERLESS-GRINDER OPERATOR | (mach. shop) | |
| 6-78.512 | DISK-GRINDER OPERATOR | (mach. shop) | |
| 6-78.513 | EXTERNAL-GRINDER OPERATOR I | (auto. mfg.) | |
| 6-78.515 | ROTARY-SURFACE-GRINDER OPERATOR | (auto. mfg.) | |
| 6-78.516 | THREAD GRINDER | (mach. tool & access.) | |
| 6-78.517 | VALVE GRINDER II | (petrol. refin.) | |
| 6-78.518 | VALVE-GRINDING-MACHINE OPERATOR | (auto. mfg.) | |
| 6-78.521 | *CYLINDRICAL-GRINDER OPERATOR II | (mach. shop) | |
| 6-78.522 | *SURFACE-GRINDER OPERATOR II | (mach. shop) | |
| 6-78.523 | *INTERNAL-GRINDER OPERATOR II | (mach. shop) | |
| 6-78.611 | BAND-SAWING-MACHINE OPERATOR | (mach. shop) | |
| 6-78.612 | CIRCULAR-SAWING-MACHINE OPERATOR | (mach. shop) | |
| 6-78.613 | FRICTION-SAWING-MACHINE OPERATOR | (mach. shop) | |
| 6-78.631 | FRAME ASSEMBLER III | (mach. mfg.) | |
| 6-78.632 | FLOOR ASSEMBLER | (mach. shop) | |
| 6-78.634 | *ELECTRICAL ASSEMBLER | (elec. equip.) | (x) |
| 6-78.671 | TESTER I | (found.; mach. shop) | |
| | *TESTER II | (found.; mach. shop) | |
| 6-78.911 | BABITTER I | (auto. mfg.) | |
| 6-78.915 | BALANCING-MACHINE OPERATOR | (mach. shop) | |
| | *BALANCING-MACHINE OPERATOR, FINISH | (auto. mfg.) | |
| | *BALANCING-MACHINE OPERATOR, ROUGH | (auto. mfg.) | |
| 6-78.921 | MOLD STAMPER | | |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | |
|---|---|---|
| 6-82.010 | COREMAKER, MACHINE I | (found.) |
| 6-82.020 | COREMAKER, MACHINE II | (found.) |
| 6-82.030 | COREMAKER, MACHINE III | (found.) |
| 6-82.060 | CORE PASTER | (found.) |
| 6-82.110 | CORE-OVEN OPERATOR I | (auto. mfg.) |
| 6-82.120 | CORE-OVEN TENDER | (found.) |
| 6-82.210 | CORE CHECKER | (found.) |
| 6-82.310 | SAND MIXER, MACHINE | (found.) |
| 6-82.330 | FACING MIXER | (found.) |
| 6-82.610 | CARPENTER, FLASK | (found.) |
| 6-82.620 | FLASK MAKER, METAL | (found.) |
| 6-82.710 | SANDBLAST-OR-SHOTBLAST-TUMBLER OPERATOR | (found.) |
| 6-82.720 | SANDBLASTER I | (any ind.) |
| 6-82.730 | TUMBLER OPERATOR II | (cut. tools; found.; furn.; pottery & porc.) |
| 6-82.920 | CASTING INSPECTOR | (found.) |
| 6-82.930 | PATTERN GATER | (found.) |
| 6-82.940 | PLASTERER, MACHINE | (found.) |
| 6-82.950 | MOLDER HELPER III | (found.) |
| 6-82.960 | MOLD CLOSER | (found.) |
| 6-82.970 | MOLD CHECKER | (found.) |
| 6-84.420 | RIVET CATCHER | (const.) |
| 6-84.430 | RIVET HEATER | (const.; ship & boat bldg. & rep.) |
| 6-84.450 | RIVET TESTER | (ship & boat bldg. & rep.) |
| 6-84.650 | RIVET HEATER, ELECTRIC | (loco. & car bldg. & rep.) |
| 6-84.660 | RIVET HEATER, GAS | (auto. mfg.; boilermaking; loco. & car bldg. & rep.) |
| 6-85.010 | WELDER, BAR | (any ind.) |
| 6-85.020 | WELDER, BUTT | (any ind.) |
| 6-85.030 | WELDER, FLASH | (any ind.) |
| 6-85.060 | WELDER, SPOT | (any ind.) |
| 6-85.070 | WELDER, THERMITE | (any ind.) |
| 6-85.110 | BONDER | (anth. coal mining; bit. coal mining; metal mining) |
| 6-85.210 | ACETYLENE-BURNER OPERATOR | (any ind.) |
| 6-85.220 | OXYACETYLENE-CUTTING-MACHINE OPERATOR | (any ind.) |
| 6-86.110 | DROP-HAMMER OPERATOR I | (forging) |

## METALWORKING OCCUPATIONS (CONT.)

| Code | Title | |
|---|---|---|
| 6-87.110 | ANNEALER | (found; heat treat.) |
| 6-87.130 | DRAW-FIRE OPERATOR | (heat treat.) |
| 6-87.220 | QUENCHING-MACHINE OPERATOR | (heat treat.) |
| 6-87.310 | TEMPERER III | (cut. tools) |
| 6-87.410 | FURNACE TENDER, HEAT TREATING | (heat treat.) |
| 6-88.082 | PLUNGER | (iron & steel) |
| 6-88.211 | MEASURER V | (iron & steel) |
| 6-88.213 | TICKET CARRIER | (iron & steel) |
| 6-88.214 | GAGER IV | (iron & steel) |
| 6-88.215 | *SHEET-ALUMINUM INSPECTOR | (alum. prod.) |
| 6-88.291 | ACID MAN IV | (iron & steel) |
| 6-88.292 | BRANNER, MACHINE | (iron & steel) |
| 6-88.293 | GREASE MAKER | (iron & steel) |
| 6-88.341 | BENCH MOVER | (iron & steel |
| 6-88.348 | CUT-OFF OPERATOR | (iron & steel) |
| 6-88.611 | ARBOR-PRESS OPERATOR | (any ind.) |
| 6-88.612 | STRAIGHTENING-PRESS OPERATOR | (any ind.) |
| 6-88.613 | STRAIGHTENER, HAND | (any ind.) |
| 6-88.622 | PUNCH-PRESS OPERATOR I | (any ind.) |
| 6-88.622 | *Dimpling-Machine Operator | (aircraft mfg.) |
| 6-88.624 | PUNCH-PRESS OPERATOR, AUTOMATIC | (any ind.) |
| 6-88.625 | PUNCH-PRESS OPERATOR, HAND | (any ind.) |
| 6-88.627 | FORMING-PRESS OPERATOR | (any ind.) |
| 6-88.664 | BREAKER II | (furn.) |
| 6-88.664 | CUTTER | (cut. tools) |
| 6-88.664 | ROTARY-SHEAR OPERATOR I | (iron & steel) |
| 6-88.664 | SQUARE-SHEAR OPERATOR | (sheet metal work) |
| 6-88.716 | SECTIONAL-HYDRAULIC-PRESS LEVERMAN | (forging) |
| 6-88.792 | METALIZING-MACHINE OPERATOR | (boilermaking) |
| 6-90.111 | AMALGAMATOR II | (ore dress., smelt., & refin.) |
| 6-90.312 | PRECIPITATOR I | (ore dress., smelt., & refin.) |
| 6-90.313 | PRECIPITATOR II | (ore dress., smelt., & refin.) |
| 6-90.314 | SOLUTION MAN | (ore dress., smelt., & refin.) |
| 6-90.315 | BLANKET WASHER | (ore dress., smelt., & refin.) |
| 6-90.512 | CONE MAN I | (ore dress., smelt,, & refin.) |
| 6-90.813 | CUTTER | (ore dress., smelt., & refin.) |
| 6-90.991 | SAMPLER | (ore dress., smelt., & refin.) |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | |
|---|---|---|
| 6-91.585 | PYROMETER MAN II | (found.) |
| 6-92.004 | WEIGHER-UP | (iron & steel) |
| 6-92.881 | ORE-STORAGE DRIER-MAN | (ore dress., smelt., & refin.) |
| 6-93.071 | BODY MAKER III | (tinware) |
| 6-93.072 | SEAMING-MACHINE OPERATOR IV | (tinware) |
| 6-93.073 | SCROLL-SHEAR FEEDER | (tinware) |
| 6-93.074 | TESTING-MACHINE OPERATOR III | (tinware) |
| 6-93.075 | TIN-SHOP INSPECTOR | (tinware) |
| 6-93.181 | BARBED-WIRE MACHINE OPERATOR | (wirework) |
| 6-93.182 | FENCE-MAKING-MACHINE OPERATOR | (wirework) |
| 6-93.183 | STRANDING-MACHINE OPERATOR | (elec. equip.; wirework) |
| 6-93.184 | WIRE-SCREEN WEAVER, HAND | (wirework) |
| 6-93.185 | WIRE-SCREEN WEAVER, MACHINE | (wirework) |
| 6-93.191 | COIL-MACHINE OPERATOR | (auto. mfg.; matt. & bedspring) |
| 6-93.192 | COILER I | (auto. mfg.) |
| 6-93.193 | HELICAL-SPRING-MACHINE OPERATOR | (matt. & bedspring) |
| 6-93.331 | HANDLE ASSEMBLER | (cut. tools) |
| 6-93.332 | ETCHER, HAND I | (cut. tools) |
| 6-93.333 | ETCHER, MACHINE | (cut. tools) |
| 6-93.334 | CLEANER | (cut. tools) |
| 6-93.661 | CAMBER-MACHINE OPERATOR | (auto. mfg.) |
| 6-93.662 | EYE MAKER | (auto. mfg.) |
| 6-93.663 | SPRING INSPECTOR | (auto. mfg.) |
| 6-93.771 | FINAL INSPECTOR III | (firearms) |
| 6-93.772 | FINAL INSPECTOR IV | (firearms) |
| 6-93.773 | SIGHTER | (firearms) |
| 6-93.774 | STAR-GAGE OPERATOR | (firearms) |
| 6-93.775 | MARKER | (firearms) |
| 6-93.776 | HEAT-TREATING BLUER | (firearms) |
| 6-93.777 | BLUER II | (firearms) |
| 6-93.852 | TWISTING-MACHINE OPERATOR II | (iron & steel) |
| 6-94.201 | SHEET-METAL-WORKER HELPER | (sheet metal work) |
| 6-94.203 | BENCH-SHEAR OPERATOR | (furn.) |
| 6-94.204 | ROTARY-SHEAR OPERATOR II | (sheet metal work) |
| 6-94.205 | SLITTING-MACHINE OPERATOR II | (auto. mfg.; iron & steel; tinware) |
| 6-94.207 | BRAKE OPERATOR, MACHINE II | (sheet metal work) |
| 6-94.217 | BENCH HAND IV | (furn.) |
| 6-94.218 | METAL-STAMPING INSPECTOR | (auto. mfg.) |
| 6-94.231 | *SHEET-METAL-WORKER HELPER, AIRCRAFT | (aircraft mfg.) |
| 6-94.351 | PROGRESSIVE ASSEMBLER AND FITTER | (agric. equip.) |
| 6-94.411 | ASSEMBLER | (office mach.) |
| 6-94.431 | ALINER II | (typewriters & parts) |
| 6-94.651 | BEARING INSPECTOR | (mach. mfg.) |
| 6-95.001 | SOLDERER I | (any ind.) |
| 6-95.041 | WELDER HELPER, ACETYLENE | (any ind.) |
| 6-95.045 | WELDER HELPER, ARC | (any ind.) |
| 6-95.053 | TUBE-BENDING-MACHINE OPERATOR I | (auto. mfg.) |
| 6-95.058 | PIPE-THREADING-MACHINE OPERATOR | (any ind.) |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | |
|---|---|---|
| 7-94.100 | MACHINIST APPRENTICE | (mach. shop) |
| 7-94.200 | *INSTRUMENT-MAKER APPRENTICE | (mach. shop) |
| 7-97.040 | SHEET-METAL-WORKER APPRENTICE | (sheet metal work) |
| 7-97.050 | *MOLDER APPRENTICE | (found.) |
| 7-97.760 | ORNAMENTAL-IRON-WORKER APPRENTICE | (const.) |
| 7-99.020 | MAINTENANCE-MECHANIC APPRENTICE | (any ind.) |
| 7-99.030 | WELDER APPRENTICE, ACETYLENE | (any ind.) |
| 7-99.040 | WELDER APPRENTICE, ARC | (any ind.) |
| 7-99.310 | PLATER APPRENTICE | (electroplating) |
| 7-99.350 | ETCHER APPRENTICE | (print. & pub.) |
| 7-99.510 | JEWELER APPRENTICE | (jewelry) |
| 7-99.832 | *PATTERNMAKER APPRENTICE, METAL | (found.) |
| 7-99.833 | *PATTERNMAKER APPRENTICE, WOOD | (found.) |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | |
|---|---|---|
| 8-74.10 | Cleaner | (electroplating) |
| 8-74.10 | Plater Helper | (electroplating) |
| 8-74.10 | Racker V | (electroplating) |
| 8-74.10 | Sawdust Drier I | (electroplating) |
| 8-74.10 | Sawdust Drier II | (electroplating) |
| 8-78.10 | Air-Chuck Operator | (mach. shop) |
| 8-78.10 | Babbitter Helper | (mach. shop) |
| 8-78.10 | Foot-Press Operator | (mach. shop) |
| 8-78.10 | Gear Cleaner | (mach. shop) |
| 8-78.10 | Hacksawing-Machine Operator | (mach. shop) |
| 8-78.10 | Hydraulic-Feed-Hacksawing-Machine Operator | (mach. shop) |
| 8-78.10 | Number Stamper | (mach. shop) |
| 8-78.10 | Positive-Feed-Hacksawing-Machine Operator | (mach. shop) |
| 8-78.10 | Riddler | (mach. shop) |
| 8-78.10 | Screw-Machine Operator, Automatic | (mach. shop) |
| 8-78.10 | Sorter | (mach. shop) |
| 8-78.10 | Tool Marker | (mach. shop) |
| 8-78.10 | Tool Stamper | (mach. shop) |
| 8-82.10 | Bandman | (found.) |
| 8-82.10 | Casting Pickler | (found.) |
| 8-82.10 | Casting Polisher | (found.) |
| 8-82.10 | Chill Greaser | (found.) |
| 8-82.10 | Coremaker Helper | (found.) |
| 8-82.10 | Drier Man III | (found.) |
| 8-82.10 | Flask Cleaner | (found.) |
| 8-82.10 | Pairer II | (found.) |
| 8-82.10 | Pattern Shellacker | (found.) |
| 8-82.10 | Rack Tender, Cores | (found.) |
| 8-82.10 | Smooth-On Man | (found.) |
| 8-87.10 | Carbonizer Packer | (heat treat.) |
| 8-87.10 | Carbonizer Puller | (heat treat.) |
| 8-87.10 | Gleason-Operator Helper | (heat treat.) |
| 8-87.10 | *Heat-Treater Helper | (heat treat.) |
| 8-92.01 | Cone-Roller Man | (iron & steel) |
| 8-92.01 | Door Operator | (iron & steel) |
| 8-92.01 | Furnace Stenciler | (iron & steel) |
| 8-92.01 | Hot-Pipe Gager | (iron & steel) |
| 8-92.01 | Mender Man | (iron & steel) |
| 8-92.01 | Riser | (iron & steel) |
| 8-92.01 | Tongs Carrier | (iron & steel) |
| 8-92.01 | Tongs-Take-Off Man | (iron & steel) |
| 8-92.01 | Yeast Tender | (iron & steel) |
| 8-93.07 | Coater Operator | (tinware) |
| 8-93.07 | Coating-Machine Racker I | (tinware) |
| 8-93.28 | Nail-Making-Machine Tender | (nail) |

METALWORKING OCCUPATIONS (CONT.)

| Code | Title | |
|---|---|---|
| 8-93.33 | Pinner II | (cut. tools) |
| 8-93.33 | Shearman II | (cut. tools) |
| 8-93.37 | Plating-Room Helper | (hardware) |
| 8-93.37 | Scratch-Brushing Buffer | (hardware) |
| 8-93.37 | Special-Finish Dipper | (hardware) |
| 8-93.37 | Stripper | (hardware) |
| 8-93.71 | Drop-Hammer-Parts Washer | (forging) |
| 8-93.86 | Tube Cutter V | (nonfer. metal alloys & prod.) |
| 8-93.86 | Washer | (nonfer. metal alloys & prod.) |
| 8-93.87 | *Johnson-Machine Operator | (alum. prod.) |
| 8-93.87 | *Rivet Sticker III | (alum. prod.) |
| 8-94.51 | Dipper VII | (refrigerat. equip.) |
| 8-94.61 | Thread Roller | (mach. tool & access.) |

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PSAD-118a
3/3/41

NOT FOR RELEASE

TENTATIVE

# DEFENSE OCCUPATIONS SUITABLE FOR WOMEN

## Part II. Electrical Equipment
## Transportation Equipment

The first part of this list, dated February 13, 1941, concerned Metalworking Occupations. The explanatory face sheet of that list (PSAD-118) applies to Part II as well.

However, one slight difference in format should be noted: Tentative titles (defined since the Dictionary was published) appear at the end of the Electrical Equipment part of this list rather than in numerical order as in Part I.

## ELECTRICAL EQUIPMENT

| Code | Title | | |
|---|---|---|---|
| 4-97.010 | ELECTRICIAN | (any ind.) | (x) |
| 4-97.220 | ELECTRICIAN, SHOP | (ship & boat bldg. & rep.) | (x) |
| 4-97.230 | ELECTRICIAN, YARD | (ship & boat bldg. & rep.) | (x) |
| 4-97.410 | ELECTRICIAN, MACHINE SHOP | (mach. shop) | (x) |
| 4-97.420 | ELECTRICAL REPAIRMAN | (any ind.) | (x) |
| 4-97.910 | ELECTRICIAN, AIRPLANE | (aircraft mfg.) | (x) |
| 4-98.010 | ELECTRICAL TESTER II | (radio mfg.) | |
| 4-98.020 | GRID INSPECTOR II | (radio mfg.) | |
| 4-98.030 | QUARTZ CUTTER | (radio mfg.) | |
| 4-98.040 | RADIO-CHASSIS ALINER | (radio mfg.) | |
| 4-98.050 | RADIO-EQUIPMENT ASSEMBLER, SPECIAL | (radio mfg.) | (x) |
| 4-99.011 | FIELD-COIL WINDER I | (any ind.) | |
| 4-99.012 | MAGNET WINDER | (elec. equip.) | |
| 4-99.161 | COMMUTATOR ASSEMBLER | (elec. equip.) | |
| 4-99.162 | ROTOR ASSEMBLER | (elec. equip.) | |
| 4-99.163 | ROTOR-CORE ASSEMBLER | (elec. equip.) | |
| 4-99.171 | TRANSFORMER REBUILDER | (any ind.) | |
| 4-99.411 | DYNAMIC BALANCER | (elec. equip.) | |
| 4-99.412 | STATIC BALANCER | (elec. equip.) | |
| 5-00.011 | SEALING-MACHINE OPERATOR IV | (elec. equip.) | |
| 5-00.012 | STEM-MOUNTING-MACHINE OPERATOR | (elec. equip.) | |
| 5-00.013 | FLARE INSPECTOR | (radio mfg.) | |
| 5-00.111 | ELECTRIC CONTAINER TESTER | (elec. equip.) | |
| 5-00.115 | BATTERY ASSEMBLER | (elec. equip.) | |
| 5-00.511 | ELECTRICAL ASSEMBLER | (refrigerat. equip.) | |
| 5-00.911 | ELECTRICAL-INSTRUMENT REPAIRMAN | (any ind.) | |
| 6-98.010 | CHASSIS ASSEMBLER II | (radio mfg.) | |
| 6-98.020 | CABINET MOUNTER | (radio mfg.) | |
| 6-98.030 | CHECK INSPECTOR | (radio mfg.) | |
| 6-98.040 | COMPOUND MIXER II | (radio mfg.) | |
| 6-98.050 | CONDENSER ALINER | (radio mfg.) | |
| 6-98.060 | CONDENSER TESTER | (radio mfg.) | |
| 6-98.070 | CONDENSER WINDER | (radio mfg.) | |
| 6-98.080 | CRYSTAL GRINDER, FINISHED | (radio mfg.) | |
| 6-98.090 | CRYSTAL GRINDER, ROUGH | (radio mfg.) | |
| 6-98.110 | INSTALLATION INSPECTOR | (radio mfg.) | |
| 6-98.120 | INSTALLER II | (radio mfg.) | |
| 6-98.130 | LOUDSPEAKER TEST-MAN | (radio mfg.) | |
| 6-98.140 | MICA-CONDENSER ASSEMBLER | (radio mfg.) | |
| 6-98.150 | MICA-CONDENSER-SECTION BUILDER | (radio mfg.) | |
| 6-98.160 | MOLD MAKER VII | (radio mfg.) | |
| 6-98.170 | PHOTOPHONE ASSEMBLER | (radio mfg.) | |
| 6-98.180 | PLATE GAGER | (radio mfg.) | |
| 6-98.210 | RADIO REPAIRMAN II | (radio mfg.) | |

ELECTRICAL EQUIPMENT (CONT.)

| Code | Title | |
|---|---|---|
| 6-98.220 | RADIO-TECHNICIAN HELPER | (radio mfg.) |
| 6-98.230 | SPEAKER ASSEMBLER | (radio mfg.) |
| 6-98.240 | TRANSFORMER ASSEMBLER II | (radio mfg.) |
| 6-98.250 | UNIVERSAL-WINDING-MACHINE OPERATOR | (radio mfg.) |
| 6-98.260 | WAX IMPREGNATOR | (radio mfg.) |
| 6-98.270 | EYELETTER V | (radio mfg.) |
| 6-98.710 | ASSEMBLY ADJUSTER | (phonograph) |
| 6-98.720 | BACKER-UP III | (phonograph) |
| 6-98.730 | MATRIX-BATH ATTENDANT | (phonograph) |
| 6-98.740 | PICK-UP ASSEMBLER | (phonograph) |
| 6-98.750 | RECORD FINISHER | (phonograph) |
| 6-98.760 | RECORD TESTER | (phonograph) |
| 6-99.011 | ARMATURE WINDER I | (elec. equip.) |
| 6-99.011 | ARMATURE WINDER II | (elec. equip.) |
| 6-99.011 | ARMATURE WINDER, REPAIR | (any ind.) |
| 6-99.012 | ARMATURE-WINDER HELPER, REPAIR | (any ind.) |
| 6-99.013 | COIL WINDER I | (any ind.) |
| 6-99.014 | COIL WINDER II | (elec. equip.) |
| 6-99.111 | ARMATURE BANDER | (any ind.) |
| 6-99.112 | ROTOR-COIL TAPER | (elec. equip.) |
| 6-99.131 | STATOR-COIL TAPER | (elec. equip.) |
| 6-99.161 | COIL ASSEMBLER I | (elec. equip.) |
| 6-99.162 | COIL BUILDER | (auto. mfg.) |
| 6-99.163 | COIL SHAPER | (any ind.) |
| 6-99.164 | POLE ASSEMBLER | (elec. equip.) |
| 6-99.165 | UNDERCUTTING-MACHINE OPERATOR | (elec. equip.) |
| 6-99.311 | ARMATURE-AND-FIELD-COIL BAKER | (any ind.) |
| 6-99.312 | ARMATURE VARNISHER | (any ind.) |
| 6-99.313 | FIELD ENAMELER | (any ind.) |
| 6-99.431 | SHAFT INSPECTOR | (elec. equip.) |
| 6-99.811 | BREAKER-BOX-MACHINE OPERATOR | (elec. equip.) |
| 7-00.011 | AGER | (radio mfg.) |
| 7-00.012 | BASE-FILLING-MACHINE OPERATOR | (elec. equip.) |
| 7-00.013 | BASER I | (elec. equip.) |
| 7-00.013 | BASER II | (radio mfg.) |
| 7-00.014 | BEAD MAKER I | (radio mfg.) |
| 7-00.015 | GETTERING-FILAMENT-MACHINE OPERATOR | (elec. equip.) |
| 7-00.017 | BULB BRANDER | (radio mfg.) |
| 7-00.018 | EXHAUST OPERATOR | (radio mfg.) |
| 7-00.021 | FILAMENT MAKER | (radio mfg.) |
| 7-00.022 | WELDER, FILAMENT | (radio mfg.) |
| 7-00.023 | STEM MAKER | (radio mfg.) |
| 7-00.024 | THREADER III | (radio mfg.) |
| 7-00.025 | SEALER II | (radio mfg.) |

ELECTRICAL EQUIPMENT (CONT.)

| Code | Title | |
|---|---|---|
| 7-00.111 | ACID FILLER | (elec. equip.) |
| 7-00.112 | ACID LEVELER | (elec. equip.) |
| 7-00.113 | BELL INSPECTOR | (elec. equip.) |
| 7-00.114 | CASTING-MACHINE OPERATOR II | (elec. equip.) |
| 7-00.115 | COVER INSPECTOR I | (elec. equip.) |
| 7-00.116 | ELEMENT INSPECTOR | (elec. equip.) |
| 7-00.117 | ELEMENT SETTER | (elec. equip.) |
| 7-00.121 | GRID INSPECTOR I | (elec. equip.) |
| 7-00.122 | GRID PASTER | (elec. equip.) |
| 7-00.123 | GROOVING-MACHINE OPERATOR II | (elec. equip.) |
| 7-00.127 | PASTING-MACHINE OPERATOR | (elec. equip.) |
| 7-00.133 | SWITCHROOM MAN | (elec. equip.) |
| 7-00.134 | TOP-CONNECTOR BURNER | (elec. equip.) |
| 7-00.135 | ELEMENT ASSEMBLER | (elec. equip.) |
| 7-00.212 | BINDING-MACHINE OPERATOR II | (elec. equip.) |
| 7-00.213 | BRAIDER OPERATOR | (elec. equip.) |
| 7-00.214 | CABLE SOLDERER | (elec. equip.) |
| 7-00.215 | IMPREGNATING-TANK OPERATOR | (elec. equip.) |
| 7-00.221 | MEASURING-BOARD OPERATOR | (elec. equip.) |
| 7-00.222 | MICROMETER INSPECTOR | (elec. equip.) |
| 7-00.223 | PAPER-WRAPPING-MACHINE OPERATOR, CABLE | (elec. equip.) |
| 7-00.224 | SPARK TESTER | (elec. equip.) |
| 7-00.225 | SPOOLING-MACHINE OPERATOR | (elec. equip.) |
| 7-00.226 | TWISTING-MACHINE OPERATOR I | (elec. equip.) |
| 7-00.227 | VULCANIZER I | (elec. equip.) |
| 7-00.228 | WIRE CLEANER | (elec. equip.) |
| 7-00.231 | DRYING-EQUIPMENT OPERATOR | (elec. equip.) |
| 7-00.912 | CIRCULATING-PROCESS INSPECTOR | (elec. equip.) |
| 7-00.913 | FLASHLIGHT ASSEMBLER | (elec. equip.) |
| 7-00.914 | THREADING-AND-BEADING-MACHINE OPERATOR | (elec. equip.) |
| 7-00.915 | JIGGERMAN I | (elec. equip.) |
| 7-00.916 | RAW-MATERIAL INSPECTOR II | (elec. equip.) |
| 7-00.917 | PYROMETER TESTER | (any ind.) |
| 7-95.100 | ELECTRICIAN APPRENTICE | (any ind.) |
| 7-95.200 | ELECTRICIAN APPRENTICE, SHIP | (ship & boat bldg. & rep.) |
| 8-98.01 | BASE BRANDER | (radio mfg.) |
| 8-98.01 | BLANKING-MACHINE OPERATOR, BULB | (radio mfg.) |
| 8-98.01 | CONDENSER COMBER | (radio mfg.) |
| 8-98.01 | FILAMENT CUTTER | (radio mfg.) |
| 8-98.01 | FILLER GRASSER | (radio mfg.) |
| 8-98.01 | FOIL SOLDERER | (radio mfg.) |
| 8-98.01 | SCRATCH BRUSHER II | (radio mfg.) |
| 8-98.01 | SCRATCH-BRUSHER OPERATOR, AUTOMATIC | (radio mfg.) |
| 8-98.01 | SEALER III | (radio mfg.) |
| 8-98.01 | SHADER, BRUSH | (radio mfg.) |

ELECTRICAL EQUIPMENT (CONT.)

| Code | Title | |
|---|---|---|
| 8-98-01 | STEM FORMER | (radio mfg.) |
| 8-98.01 | THREAD BURNER | (radio mfg.) |
| 8-98.01 | WAX BURNER | (radio mfg.) |
| 9-00.91 | BENCH-MOTOR OPERATOR | (elec. equip.) |
| 9-00.91 | KETTLE OPERATOR, LEAD | (elec. equip.) |
| 9-00.91 | LEAD-PRESS-OPERATOR HELPER | (elec. equip.) |
| 9-00.91 | PAPER-WRAPPING-MACHINE OPERATOR HELPER, CABLE | (elec. equip.) |
| 9-00.91 | PLATE CLEANER II | (elec. equip.) |
| 9-00.91 | VULCANIZER HELPER | (elec. equip.) |

Tentative Titles and Codes:

| | | | |
|---|---|---|---|
| 4-99.432 | FINAL TESTER | (elec. equip.) | (x) |
| 5-00.912 | INSTRUMENT MAKER I | (elec. equip.) | (x) |
| 6-78.634 | ELECTRICAL ASSEMBLER | (elec. equip.) | (x) |
| 6-99.166 | ASSEMBLER, ELECTRIC MOTOR | (elec. equip.) | |
| 6-99.433 | CIRCUIT-BREAKER TESTER | (elec. equip.) | |
| 6-99.821 | BRUSH CUTTER | (elec. equip.) | |
| 6-99.822 | MOTOR AND GENERATOR BRUSH MAKER | (elec. equip.) | |
| 7-00.921 | PULL-SOCKET ASSEMBLER | (elec. equip.) | |
| 8-98.01 | COIL FINISHER | (radio mfg.) | |
| 9-00.91 | BEARING ASSEMBLER | (elec. equip.) | |
| 9-00.91 | ELECTRIC-CORD ASSEMBLER | (elec. equip.) | |

## TRANSPORTATION EQUIPMENT

| Code | Title | | |
|---|---|---|---|
| 5-03.010 | AIRPLANE COVERER | (aircraft mfg.) | |
| 5-03.030 | FABRIC WORKER I | (aircraft mfg.) | |
| 5-03.110 | FUSELAGE-FRAME BUILDER | (aircraft mfg.) | |
| 5-03.120 | RIB-FRAME BUILDER | (aircraft mfg.) | |
| 5-03.130 | SPAR BUILDER | (aircraft mfg.) | |
| 5-03.140 | TAIL-SURFACE-FRAME BUILDER | (aircraft mfg.) | |
| 5-03.150 | WING-FRAME BUILDER | (aircraft mfg.) | |
| 5-03.810 | AIRPLANE INSPECTOR | (aircraft mfg.) | |
| 5-05.010 | RAILROAD WHEELS AND AXLE INSPECTOR | (loco. & car bldg. & rep.) | |
| 5-05.510 | BATTEN MAKER | (ship & boat bldg. & rep.) | (x) |
| 5-05.530 | LAY-OUT MAN | (ship & boat bldg. & rep.) | (x) |
| 7-02.011 | CRANKSHAFT PLUGGER | (auto. mfg.) | |
| 7-02.012 | CYLINDER-BLOCK-ROLLING-MACHINE OPERATOR | (auto. mfg.) | |
| 7-02.013 | RADIATOR-CORE DIPPER | (auto. mfg.) | |
| 7-02.014 | RADIATOR-CORE REPAIRMAN | (auto. mfg.) | |
| 7-02.015 | SOLDERER, TORCH I | (auto. mfg.) | |
| 7-02.016 | TRUNK MAN | (auto. mfg.) | |
| 7-02.311 | SHORTAGE ASSEMBLER | (auto. mfg.) | |
| 7-02.321 | SUBASSEMBLER | (auto. mfg.) | |
| 7-02.331 | SCREW-DRIVER MAN | (auto. mfg.) | |
| 7-02.341 | BODY REPAIRMAN II | (auto. mfg.) | |
| 7-02.351 | BALANCER I | (auto. mfg.) | |
| 7-02.355 | GARNISH MOLDER | (auto. mfg.) | |
| 7-02.356 | HEADLIGHT ADJUSTER | (auto. mfg.) | |
| 7-02.357 | MOTOR ADJUSTER | (auto. mfg.) | |
| 7-02.358 | MOTOR STAMPER | (auto. mfg.) | |
| 7-02.362 | RADIATOR-CORE ASSEMBLER | (auto. mfg.) | |
| 7-02.363 | RIVET SPINNER | (auto. mfg.) | |
| 7-02.367 | SOLDERING-WHEEL MAN | (auto. mfg.) | |
| 7-02.373 | TRIM BENCH-HAND | (auto. mfg.) | |
| 7-02.611 | CLARIFIER I | (auto. mfg.) | |
| 7-02.612 | OVEN TENDER I | (auto. mfg.) | |
| 7-02.613 | PAINT SCALEMAN | (auto. mfg.) | |
| 7-02.711 | CARBURETOR INSPECTOR | (auto. mfg.) | |
| 7-02.712 | CHECKER | (auto. mfg.) | |
| 7-02.714 | GAGER I | (auto. mfg.) | |
| 7-02.715 | GEAR MATCHER | (auto. mfg.) | |
| 7-02.716 | GEAR ROLLER | (auto. mfg.) | |
| 7-02.717 | HAMMER TESTER | (auto. mfg.) | |
| 7-02.718 | HARD-ROLL TRIER-OUT | (auto. mfg.) | |
| 7-02.721 | HYPOID-TESTING-MACHINE OPERATOR | (auto. mfg.) | |

TRANSPORTATION EQUIPMENT (CONT.)

| Code | Title | |
|---|---|---|
| 7-02.722 | LOAD TESTER | (auto. mfg.) |
| 7-02.723 | SERVICE-CLAIMS INSPECTOR | (auto. mfg.) |
| 7-02.724 | TORSION TESTER | (auto. mfg.) |
| 7-02.726 | TROUBLE MAN, CHASSIS PARTS | (auto. mfg.) |
| 7-02.727 | VALVE BLUER | (auto. mfg.) |
| 7-02.731 | WINDSHIELD TESTER | (auto. mfg.) |
| 7-02.741 | BODY-ASSEMBLY INSPECTOR | (auto. mfg.) |
| 7-02.742 | BODY-FRAME INSPECTOR | (auto. mfg.) |
| 7-02.743 | METAL-FINISH INSPECTOR I | (auto. mfg.) |
| 7-02.744 | PAINT-SPRAY INSPECTOR | (auto. mfg.) |
| 7-02.745 | PANELING INSPECTOR | (auto. mfg.) |
| 7-02.746 | SHEET-STEEL INSPECTOR | (auto. mfg.) |
| 7-03.510 | DETAIL ASSEMBLER | (aircraft mfg.) |
| 7-05.030 | LAY-OUT MAN I | (loco. & car bldg. & rep.) |
| 7-05.040 | BAND-STRIPPER OPERATOR | (loco. & car bldg. & rep.) |
| 9-02.01 | AIR-MOTOR MAN | (auto. mfg.) |
| 9-02.01 | ANNEALER, TORCH | (auto. mfg.) |
| 9-02.01 | ANTISQUEAK MAN II | (auto. mfg.) |
| 9-02.01 | BAG BUILDER | (auto. mfg.) |
| 9-02.01 | BATTERY-CRADLE BUILDER | (auto. mfg.) |
| 9-02.01 | BEADING TRIMMER | (auto. mfg.) |
| 9-02.01 | BINDING APPLIER | (auto. mfg.) |
| 9-02.01 | BLOCK PUNCHER | (auto. mfg.) |
| 9-02.01 | BLOW-OFF MAN II | (auto. mfg.) |
| 9-02.01 | BODY DRESSER | (auto. mfg.) |
| 9-02.01 | BODY-HARDWARE ASSEMBLER | (auto. mfg.) |
| 9-02.01 | BODY MASKER | (auto. mfg.) |
| 9-02.01 | BODY-METAL MOLDER | (auto. mfg.) |
| 9-02.01 | BODY PACKER | (auto. mfg.) |
| 9-02.01 | BODY WIREMAN | (auto. mfg.) |
| 9-02.01 | BONDERIZER | (auto. mfg.) |
| 9-02.01 | BONDERIZER WIPER | (auto. mfg.) |
| 9-02.01 | BOW ASSEMBLER | (auto. mfg.) |
| 9-02.01 | BOW SETTER | (auto. mfg.) |
| 9-02.01 | BOW TRIMMER | (auto. mfg.) |
| 9-02.01 | BREAK-DOWN OPERATOR | (auto. mfg.) |
| 9-02.01 | BURN-OFF MAN | (auto. mfg.) |
| 9-02.01 | BUTTON GIRL II | (auto. mfg.) |
| 9-02.01 | CAMSHAFT POLISHER | (auto. mfg.) |
| 9-02.01 | CARBURETOR ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CARPET FITTER | (auto. mfg.) |
| 9-02.01 | CARRIER ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CASTING DIPPER | (auto. mfg.) |
| 9-02.01 | CEMENT-MACHINE OPERATOR, UPHOLSTERY | (auto. mfg.) |
| 9-02.01 | CENTERLESS-GRINDING-MACHINE OPERATOR, AUTOMATIC | (auto. mfg.) |

TRANSPORTATION EQUIPMENT (CONT.)

| Code | Title | |
|---|---|---|
| 9-02.01 | CHANNEL ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CHECK-STRAP ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CHROME CLEANER | (auto. mfg.) |
| 9-02.01 | CLEAN-UP MAN IV | (auto. mfg.) |
| 9-02.01 | CLICKING-MACHINE OPERATOR II | (auto. mfg.) |
| 9-02.01 | CLIP-PRESS OPERATOR | (auto. mfg.) |
| 9-02.01 | CLUTCH ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CLUTCH-PLATE RIVETER | (auto. mfg.) |
| 9-02.01 | COLOR-TAG BOY | (auto, mfg.) |
| 9-02.01 | CONE GRINDER | (auto. mfg.) |
| 9-02.01 | CORE BLACKENER | (auto. mfg.) |
| 9-02.01 | CORE-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | COUNTERWEIGHT ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CRIMPING-PRESS OPERATOR | (auto. mfg.) |
| 9-02.01 | CROWN MOLDER | (auto. mfg.) |
| 9-02.01 | CURLING-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | CURTAIN FITTER | (auto. mfg.) |
| 9-02.01 | CURTAIN HANGER | (auto. mfg.) |
| 9-02.01 | CURTAIN MAKER | (auto. mfg.) |
| 9-02.01 | CUSHION CRIMPER | (auto. mfg.) |
| 9-02.01 | CUSHION-FRAME ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CYLINDER-HEAD ASSEMBLER | (auto. mfg.) |
| 9-02.01 | CYLINDER-BLOCK WASHER | (auto. mfg.) |
| 9-02.01 | DOOR TRIMMER | (auto. mfg.) |
| 9-02.01 | DOORFRAME DRESSER | (auto. mfg.) |
| 9-02.01 | DOUBLE-DISK-GRINDER OPERATOR | (auto. mfg.) |
| 9-02.01 | ENAMEL-OVEN FEEDER | (auto. mfg.) |
| 9-02.01 | ENAMEL-OVEN UNLOADER | (auto. mfg.) |
| 9-02.01 | ENAMEL RUBBER | (auto. mfg.) |
| 9-02.01 | EXTENSION-SPRING ASSEMBLER | (auto. mfg.) |
| 9-02.01 | FELT ATTACHER | (auto. mfg.) |
| 9-02.01 | FILER, BABBITT | (auto. mfg.) |
| 9-02.01 | FIN-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | FINAL ASSEMBLER, BODY | (auto. mfg.) |
| 9-02.01 | FLARING-MACHINE OPERATOR I | (auto. mfg.) |
| 9-02.01 | FLOOR-BOARD ASSEMBLER | (auto. mfg.) |
| 9-02.01 | FOOTREST TRIMMER | (auto. mfg.) |
| 9-02.01 | FROG-LEG ASSEMBLER | (auto. mfg.) |
| 9-02.01 | FRONT-WHEEL ASSEMBLER | (auto. mfg.) |
| 9-02.01 | GAS-OFF MAN | (auto. mfg.) |
| 9-02.01 | GAS-TANK ASSEMBLER | (auto. mfg.) |
| 9-02.01 | GASMAN II | (auto. mfg.) |
| 9-02.01 | GLUEMAN, STRAIGHT | (auto. mfg.) |
| 9-02.01 | GRAPHITE SPRAYER | (auto. mfg.) |
| 9-02.01 | GROMMET MAN I | (auto. mfg.) |
| 9-02.01 | HAIR-PICKING-MACHINE OPERATOR | (auto. mfg.) |

TRANSPORTATION EQUIPMENT (CONT.)

| Code | Title | |
|---|---|---|
| 9-02.01 | HARNESS-CLIP ASSEMBLER | (auto. mfg.) |
| 9-02.01 | HEADLIGHT ASSEMBLER | (auto. mfg.) |
| 9-02.01 | HEEL-KICK INSTALLER | (auto. mfg.) |
| 9-02.01 | HINGE ASSEMBLER | (auto. mfg.) |
| 9-02.01 | KETTLEMAN | (auto. mfg.) |
| 9-02.01 | KNOT-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | LINDERMAN FEEDER | (auto. mfg.) |
| 9-02.01 | LINK-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | LOCK ASSEMBLER I | (autol mfg.) |
| 9-02.01 | LYE-TANK MAN | (auto. mfg.) |
| 9-02.01 | MUFFLER ASSEMBLER | (auto. mfg.) |
| 9-02.01 | OIL DRAINER | (auto. mfg.) |
| 9-02.01 | OIL-PAN TESTER | (auto. mfg.) |
| 9-02.01 | OIL-PUMP ASSEMBLER II | (auto. mfg.) |
| 9-02.01 | OILMAN II | (auto. mfg.) |
| 9-02.01 | OKITE CLEANER | (auto. mfg.) |
| 9-02.01 | PAINTER, CHROME-PLATED PARTS | (auto. mfg.) |
| 9-02.01 | PAINTER, LEAD | (auto. mfg.) |
| 9-02.01 | PASTER | (auto. mfg.) |
| 9-02.01 | PICKING-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | POWER-ROLL OPERATOR | (auto. mfg.) |
| 9-02.01 | RUST PROOFER | (auto. mfg.) |
| 9-02.01 | SCREW DRIVER | (auto. mfg.) |
| 9-02.01 | SHEET-METAL OILER | (auto. mfg.) |
| 9-02.01 | SHEET-METAL-ROLLING-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | SLUSHER II | (auto. mfg.) |
| 9-02.01 | SMALL-PARTS BUFFER | (auto. mfg.) |
| 9-02.01 | SNAP-STAMPING-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | STOCK WIPER | (auto. mfg.) |
| 9-02.01 | STUFFER, HAND I | (auto. mfg.) |
| 9-02.01 | TINNER OPERATOR, CONNECTING | (auto. mfg.) |
| 9-02.01 | TOOL-KIT PACKER | (auto. mfg.) |
| 9-02.01 | TRIMMER, HAND I | (auto. mfg.) |
| 9-02.01 | TUMBLER-OVER MAN, PAINT | (auto. mfg.) |
| 9-02.01 | UPHOLSTERY CLEANER I | (auto. mfg.) |
| 9-02.01 | UPHOLSTERY-MATERIAL MARKER | (auto. mfg.) |
| 9-02.01 | UPHOLSTERY SMOOTHER | (auto. mfg.) |
| 9-02.01 | UPRIGHT MAN, GLASS | (auto. mfg.) |
| 9-02.01 | VALVE STICKER | (auto. mfg.) |
| 9-02.01 | VENEER GLUER I | (auto. mfg.) |
| 9-02.01 | VENT FITTER | (auto. mfg.) |
| 9-02.01 | VENTILATOR MAN | (auto. mfg.) |

TRANSPORTATION EQUIPMENT (CONT.)

| Code | Title | |
|---|---|---|
| 9-02.01 | WASH-TANK MAN | (auto. mfg.) |
| 9-02.01 | WASHING-MACHINE OPERATOR II | (auto. mfg.) |
| 9-02.01 | WATERMAN II | (auto. mfg.) |
| 9-02.01 | WEBER-EDGER OPERATOR | (auto. mfg.) |
| 9-02.01 | WELCH-PLUG SETTER | (auto. mfg.) |
| 9-02.01 | WINDHOSE TRIMMER | (auto. mfg.) |
| 9-02.01 | WINDOW CLEANER II | (auto. mfg.) |
| 9-02.01 | WINDSHIELD-FRAME-ROLLING-MACHINE OPERATOR | (auto. mfg.) |
| 9-02.01 | WIPER II | (auto. mfg.) |
| 9-02.01 | WIRE-CUTTER-AND-STRAIGHTENER OPERATOR | (auto. mfg.) |
| 9-02.01 | WIRE STRIPPER | (auto. mfg.) |
| 9-05.01 | STENCILER, RAILROAD AXLES | (loco. & car bldg. & rep.) |
| 9-05.01 | STICK-IN MAN | (loco. & car bldg. & rep.) |
| 9-05.51 | BOATBUILDER HELPER, WOOD | (ship & boat bldg. & rep.) |
| 9-05.51 | ELECTRICIAN HELPER II | (ship & boat bldg. & rep.) |
| 9-05.51 | MACHINIST HELPER, MARINE | (ship & boat bldg. & rep.) |
| 9-05.51 | MACHINIST HELPER, MARINE GAS-ENGINE | (ship & boat bldg. & rep.) |
| 9-05.51 | PAINTER HELPER, BOAT | (ship & boat bldg. & rep.) |

For Life Lab.
Feb 17-194

## The Work Women Do In Defense Industries

The industrial picture for women is vastly changed from a year ago. At that time women seeking jobs at public employment offices included welders, molders, sheet metal workers, electroplaters, filers, grinders, buffers, electrical workers, rolling and stamping mill workers. Some employers have been slow to be convinced of the effectiveness of women for some of these jobs.

Figures now available for the late fall show that in one month women placed in defense jobs by the employment services in various parts of the country included punch press operators, electrical assemblers, drill press operators, armature winders, and core makers. One woman also was placed in each of the following: Lathe operator, tool inspector, electrician, operator of switchboard to control electric furnaces.

A recent survey of Cleveland employment service figures indicates that men are being taken on so rapidly that by late spring employment in that locality will be better than in 1929, and by summer large numbers of women workers will begin to be needed. In addition, a new government munitions plant being built not far from Cleveland expects to take on a force including some 2,500 women by early summer.

Even now at the Frankford Arsenal in Philadelphia women are reported wrapping and packing 37 mm. shells, and working at huge precision machines as inspectors of shell cases. They sew, assemble and inspect gas masks, inspect and assemble goggles for aviators, inspect blankets, cut canvas for making army cots.

In the Chrysler plant, women are reported examining metals through a spectroscope in order to give the plant engineers exact knowledge as to the character of the material.

In a large electrical manufacturing company, over a third of the employees at work making watt-hour meters are women. They make and assemble many small wheels and parts, solder small wire, inspect small parts, operate power screw drivers, and inspect with a shadowgraph machine to insure the correct mesh of gears and meters.

At the 54th Convention of the United Typothetae of America last fall, Fred J. Hartman, editor of the Typothetae Bulletin stated that women can do any job there is in printing except for press work, otherwise the draft might hit that industry very hard. He added that women have demonstrated a masterly handling of color in printing, which is now the field where progress in printing lies.

A survey by the Women's Bureau of certain plants working on defense contracts has found that in plants making airplane engines and parts the chief job of women is inspecting small parts, using blueprints and testing to fine degrees of tolerance. All parts purchased or made elsewhere are closely inspected before using as are parts when completed within the plant. Gears are inspected visually with gages; spark plugs checked for leakages with use of electric indicators; weight and diameter of pistons very carefully checked; stiffness of springs tested with a special indicator. Some of the parts to be inspected are projected by shadowgraph to insure more accurate work.

In instrument factories the Women's Bureau found women performing largely bench work, assembling parts with riveting presses, arbor presses, automatic screw drivers, soldering, electric spot welding of wires and other light jobs involving winding and cutting of wires.

In machine tool plants women are doing bench work, inspecting light machine work, wrapping and winding coils, and packing. In one plant women are found more efficient than men at driving and controlling overhead cranes.

A Connecticut local of the International Association of Machinists lately reported admission of women to the union for the first time. Foot and power press operation and bench work were their chief occupations. Many of them were employed in a plant making bands for wrist watches, but that too is a defense need!

### Can Women Get Training For Defense Industry Work?

The admission of women to training for defense occupations has seemed slow to get under way, but there are increasing instances reported of their membership in such courses. This may be in the special defense training classes, in the regular vocational schools, or in W.P.A., N.Y.A., or C.C.C. projects, as well as the more specific training on the job in the plant.

The President of the New York City Board of Education, James Marshall, has strongly urged organizing defense classes to train women, especially in industrial assembly and inspection, instrument manufacture, light punch press operation, and work as nurses' aides and as cooks.

In Waterbury, Connecticut, 100 women have been receiving training in drafting and tracing in defense classes. In regular trade schools in New Jersey women get instruction in wiring, spot welding, and press work. On N. Y. A. projects women are becoming experienced along various lines, as for example on such machines as lathes, drills, and wood-turning devices in Connecticut, and as operators of power sewing machines in Chicago.

On a W.P.A. project in Newton, Massachusetts, all the trainees were women, and they have proven themselves more adaptable than men in the manufacture of time-bomb mechanisms. They also are taught spot welding and operation of light lathes, kick presses, punch presses, and eyelet and riveting machines.

In industrial areas, young women are receiving work experience under the N.Y.A. in machine, metal, mechanical, radio and electrical shops. In some of these areas, there is already a demand for women with this type of work experience.

Practically every State Supervisor of Trade and Industrial Education under the defense training program has already made detailed plans for training women in various occupations in defense.

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2/17/41

U.S. Department of Labor
WOMEN'S BUREAU
Washington

Standards

Excerpts from:

## RESPONSIBILITY OF GOVERNMENT LABOR OFFICIALS IN THE DEFENSE PROGRAM

By Industrial Commissioner, Frieda S. Miller

Address delivered by Commissioner Frieda S. Miller as President of the International Association of Government Labor Officials at the convention of the Association in St. Louis - September 3-6, 1941.

...Where does our special contribution lie in connection with the Defense Program? As I see it, in three major areas where our experience and technical knowledge are unquestioned.

### A-CONSERVATION OF WORKERS' HEALTH

The first of these is the conservation of the workers' health, and the positive assurance of compensation where the worker is temporarily or permanently injured through industrial operations.

...The greater number exposed to health risks in periods of high employment automatically increases the amount of industrial sickness and accident. But beyond this are other factors--inexperienced workers, crowding, speed-ups, use of new machines and unfamiliar chemicals--which it is within our power to control.

### B-MAINTENANCE AND EXTENSION OF LABOR STANDARDS

Our second major responsibility lies in the maintenance and extension of labor standards....

...We know that from the standpoint of productive efficiency, we must avoid excessive hours of work. We have not only our own knowledge but the support of leaders of industrial management in this matter....

...Great Britain began its present defense effort by repeating many of its mistakes of the last war. By the spring of 1940, 60 hours per week were fairly common in British war industry and an intensive drive for munitions production in May 1940 resulted in a 12-hour day, seven-day week....Within two months...there was a general complaint of absenteeism and the Minister of Labour answered the charge by stating that exhaustion of workers was one of the causes...

Nothing could be more damaging to the ultimate success and validity of the Defense Program than the wholesale abandonment of this Country's advances in the field of regulation of working hours. Requests for change from individual plants must be carefully examined and facts secured on the extent and character of the emergency production that stimulates the request. To what extent has the management utilized existing facilities, equipment and labor supply? Is the individual firm's production truly involved in the defense effort? What will be the effect of the proposed change on the health and efficiency of the workers? All of us, government, labor and the employers, must be prepared to evaluate the need objectively in the light of the facts.

In New York State, emergency needs have been met by permitting individual plants to work men seven days a week to aid emergency production. Employer requests, however, are submitted to our State Board of Standards and Appeals, which requires that the application state whether there are valid difficulties in production; whether there is a labor shortage, and what provision will be made for compensation for the worker. The attitude of the employees toward the proposal must also be included in the application.

Nor is the sole issue one of the total number of hours worked in the week or [illegible] The number of hours worked at a continuous stretch, the provision made for meal periods, the physical conditions under which the work is performed have been recognized through years of expert observation as important to the comfort and health of the worker, and hence as important in safeguarding quantity and quality of production.

Suggestive evidence of the beneficial effects of organized rests, for example, was obtained 25 years ago in British munitions factories, and findings have been reiterated during the present war. Without sufficient rest and recreation, alarming increases in illness, often with permanent injury to the worker will occur.

The U.S. Army during the last war recommended that in continuous 24-hour work, eight hours per shift should be maximum. The Office of the Chief of Ordnance stated that "the observation of National and local holidays will give opportunity for rest and relaxation which tend to make production more satisfactory." I notice that the English Premier, in a speech to the House of Commons on July 29, pointed out: "If we are to win this war...it will be largely by staying power. For that purpose there must be one day in seven for rest as a general rule and there must be one week's holiday a year... If we had not done so, we should have had a serious crash."

The maintenance and extension of proper standards in workrooms are also essential to efficient production. Too often these matters are regarded as trivial compared with total hours worked. When one considers, however, that in a British metal polishing factory women increased their output by as much as 32 percent when they changed from a standing to a sitting position, the importance of proper work standards is brought home.

## Minimum Wage Standards

But of all the measures which have been under attack, there is no one on which the Defense Program offers so little justification for retreat as in the maintenance of minimum wage standards. The President himself has emphasized that "there is nothing in our present emergency to justify a lowering of the standards of employment. Minimum wages should not be reduced."

There is one more aspect of defense employment problems with which we who are in immediate contact with the labor market are especially concerned. We in the United States have a labor force composed of many races and nationalities....Refusal to hire Negroes, Jews or foreigners in jobs for which they are fully qualified, at equal rates of pay, appears to me to be nothing less than sabotage of the Defense Program.

## C- CONSERVATION OF WORKERS' INCOME

The lines of responsibility I have outlined above are, I am confident, a matter of agreement among all of us. There is, however, a far more difficult problem than any of these which the Nation now faces....

Priorities have begun to have their impact on employment in the civilian industries. The head of a Federal defense agency estimates that over two million persons will lose their jobs this year through the operation of priorities and allocations. There is, moreover, now full public realization that the greatly increased labor force created to manufacture war materials and the induction of millions of men of working age into military service requires us to plan now for the post-war situation.

## RESPONSIBILITY OF LABOR OFFICIALS IN PROGRAM

Government labor officials are in a strategic position to interpret the situation to the whole community. We have the technical knowledge, and the basic machinery, in the form of our labor force of the Nation for preserving and extending the standards which personify democracy's very meaning, and to realize that in so doing we are maintaining public morale and adding to the efficiency of our economic system.

(The Industrial Bulletin, N.Y. State Dept. of Labor, pp243-248

INDUSTRIAL BULLETIN New York
Annual Report - Women in Industry

sions handed down by the Court of Appeals in workmen's compensation cases, Board action was sustained in 16 cases and reversed in five cases.

• **Disability Benefits Compliance**—When the new non-occupational Disability Benefits Law became fully effective on July 1, 1950, a total of 157,199 employers had provided, through insurance or self-insurance, benefits for 4,669,738 eligible employees. Of these, 104,139 employers provided statutory benefits for 1,927,331 employees, and 53,060 employers provided benefits under new or existing plans for 2,742,407 employees at work on July 1, 1950. Plan benefits differ from, and usually exceed, the statutory scale of benefits. Due to seasonal and vacation lay-offs, July 1 is a date that does not reflect full employment. Later figures are not yet available.

Plans accepted by the Board chairman as being in compliance with the law vary widely in terms of the number of weeks for which benefits are payable; length of the waiting period; and the amount of weekly cash benefits; hospital, medical or surgical benefits in combination with cash benefits; and also as regards the terms under which a plan is effective.

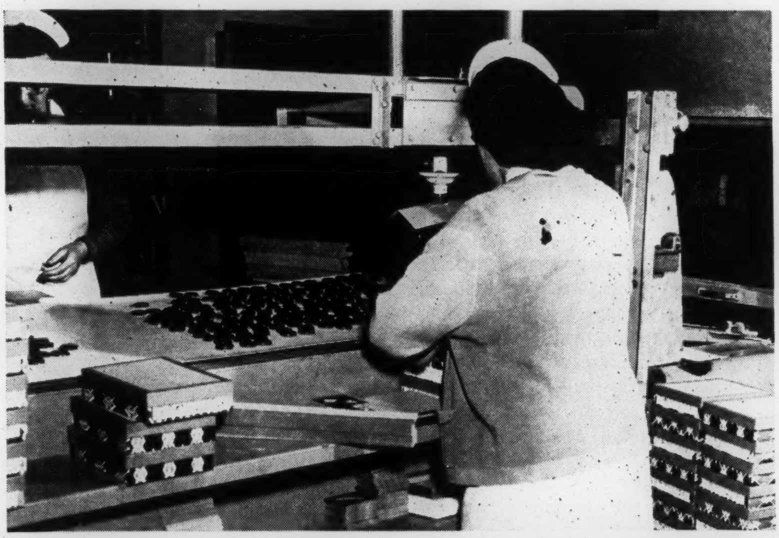
• **Benefits for the Unemployed** — From January 1, 1950, through June 30, 1950, covered employers were subject to the Temporary Contribution for initial financing of the Special Fund created under the Disability Benefits Law for disability benefits for eligible disabled unemployed workers. Employees contributed 1/10th of 1 percent of the first $60 of weekly wage or salary, never more than 6 cents per week. Employers matched the contributions of their employees. Total temporary contributions collected for the first six months of 1950 amounted to $10,030,778.82.

Effective April 13, 1949, the number of Board members was increased from ten to thirteen, thus providing four regular review panels of three members each. The Chairman has administrative responsibility. All thirteen members join in deciding cases taken for full Board review.

# INDUSTRIAL RELATIONS, WOMEN IN INDUSTRY, AND MINIMUM WAGE

**STIMULATES steady improvement of work standards and related conditions of employment . . . enforces laws relating to minimum wage, payment of wages, hours of work, women employees, child labor and industrial homework . . .**

The Division of Industrial Relations, Women in Industry and Minimum Wage is responsible for the administration and enforcement of labor laws relating to minimum wages, hours of work, child labor, payment of wages, day-of-rest, registration of employers of migrant labor, equality of wages between men and women, and industrial homework.



*Enforcement of the law regulating hours of work for women resulted, during the year 1950, in 362 departmental hearings throughout the State.*

Approximately 350,000 establishments with employees, exclusive of farms, are subject to one or more of the hours, child labor, and wage payment laws. Of this total, 165,000 establishments also are covered by the State's minimum wage orders.

Enforcement activities during 1950 emphasized inspections for compliance with the State's minimum wage orders. Inspections were concentrated in minimum wage industries so as to complete first inspections in establishments covered by the 1947 revised series of minimum wage orders.

Two-thirds of the 82,000 establishments inspected by the Enforcement Bureau were subject to the State's minimum wage orders. Ten percent of these firms were found to be paying less than the prescribed minimums to one or more of their employees. About $500,000 in underpayments was collected by the Division and paid to 13,300 employees.

An increasing number of employees have been utilizing the facilities of the Division in the collection of unpaid wages. Over $204,000 in withheld wages was collected for the benefit of employees during the year, an increase of more than 25 percent over 1949.

Further advances in the control of industrial homework were made during the year. A special order was issued regulating homework in the direct mail industry, the first measure to control the distribution of homework to typists and persons engaged in addressing and mailing processes. In the other homework industries, the number of employers licensed to distribute homework and the number of persons certificated to do industrial homework declined to new lows.

Compliance with the regulations governing the employment of children on farms showed further improvement. The utilization of children under 16 in farm work has declined sharply during the past three years, and the proportion of children illegally employed showed a further decrease during 1950.

• **Organization of Division** — The Director of the Division, under the general direction of the Industrial Commissioner, is responsible for general administration and policy. An Administrator has over-all supervision of the activities of the various units in the Division.

*The Bureau of Enforcement* is the Division's largest unit, and is responsible for the enforcement of all laws administered by the Division as a

# WORKMEN'S COMPENSATION BOARD

**PROVIDES New York's workers with "round-the-clock" protection against total loss of income due to disabling injuries or illnesses whether contracted on or off the job . . . efficient administration guarantees speedy and just determinations . . .**

*With a total of almost four million papers received by its Claims Bureau during the year, the Workmen's Compensation Board achieved a new all-time record in volume of cases handled and high standards of performance in 1950. In addition, the Board's administration of Disability Insurance started on July 1 last year.*

July 1, 1951 marks the 37th anniversary of continuous administration of Workmen's Compensation in New York State. Workers who are disabled or fatally injured from accidents that arise out of and in the course of their employment or by occupational disease receive both cash and medical benefits, which are superior to those under other workmen's compensation programs.

July 1, 1951 also marks the first anniversary of the newer non-occupational Disability Benefits program which became fully effective on July 1, 1950. This new social insurance system provides weekly cash benefits to replace, in part, wages or salary lost due to non-occupational disablements. Thus is completed New York's round-the-clock disability insurance for approximately 6 million workers who earn their living in the Empire State.

Both laws are administered by the Workmen's Compensation Board which, faced with the many problems associated with successfully launching the new Disability Benefits Law last year, nevertheless made an all-time record in the volume of Workmen's Compensation cases handled and in high standards of performance in workmen's compensation.

"Administrative practices rest on the premise that when employers and workers understand their rights and obligations with regard to a social insurance program, the extent and degree of controversy are minimized," according to Mary Donlon, Board Chairman. "In workmen's compensation, employers and carriers have had 37 years to become acquainted with basic requirements. That they accept their responsibility now is evidenced by the fact that during 1949, latest year for which complete statistics are available, 93.2 percent of workmen's compensation claims were not controverted by employers or their carriers. Compensation figures for the year of 1950 underline the progress made possible by methods of reorganization that were begun April 1, 1945.

"Procedures and skills acquired over 37 years in the functioning of the occupational disability benefits program, workmen's compensation, have been invaluable in translating, all within a matter of months, the completely new non-occupational Disability Benefits Law into a smoothly functioning, satisfactory program."

• **Compensation Claims — 1950** — More than 700,000 work injuries are reported to the Workmen's Compensation Board every year. During 1950 there were 786,768 accidents reported. The increase over 774,057 accidents reported in 1949 is directly attributable to fuller employment resulting from stepped-up defense work in essential industries during the latter part of 1950.

During 1950 papers received by the Claims Bureau reached an all-time high of 3,937,775. There were 181,319 new claims indexed for hearings, and 14,231 old claims were reopened. Cases indexed and reopened increased upwards of 6 percent over the number indexed and reopened during 1949. Greater awareness on the part of workers as to their rights under the two State disability insurance programs undoubtedly is responsible in part for this increase.

• **Referee Hearings Set Record** — During 1950 the Board held 477,167 referee hearings in workmen's compensation claims. Held on regular calendars in 91 cities and towns throughout the State, there were 10,835 referee hearing days in the year. Of these, 312,248 hearings were held in the New York City district, and 164,919 in upstate districts. Included were 411 special bedside hearings arranged in homes, hospitals and elsewhere to accommodate those claimants unable to appear at regularly scheduled hearings.

Better medical examinings are cited as responsible, in part, for an increase in referee decisions from 409,430 in 1949 to 426,868 in 1950. Medical examinations by Board doctors decreased from 153,116 in 1949 to 138,541 in 1950, reflecting improved hearing and examining practices. The Board itself handed down 4,908 decisions during 1950, or 1,035 more than during the previous year.

For the third consecutive year, appeals taken to the courts from Board and referee decisions declined. In 1950 a total of 407 appeals were filed. Of these, 390 were appeals to the Appellate Division, Third Department, and 17 were to the Court of Appeals. Of 135 decisions in workmen's compensation cases handed down by the Appellate Division, action of the Board was affirmed in 118 cases; decision of the Board was modified and affirmed in two cases; in six cases, the action of the Board was reversed and the case remitted to the Board; and in nine cases the Board action was reversed and the claim dismissed. Of 21 deciwhole, except the Industrial Homework Law and the Equal Pay Law. Administratively, the Bureau is divided into an Upstate area and a Metropolitan area. The Upstate area, with headquarters in Albany, is under the direction of a Chief. It contains six supervisory districts covering 51 counties. The Metropolitan section, with headquarters in New York City, has eight supervisory districts covering 11 counties.

*The Wage Claims Unit* specializes in the handling of claims for withheld wages arising in New York City. The heavy volume of this type of work within a limited geographical area is handled more efficiently by a specialized unit. The unit is directed by a supervising industrial investigator. He is assisted by two senior investigators, two industrial investigators, and other investigators assigned from the Enforcement Bureau.

*The Bureau of Homework Inspection* is responsible for the administration and enforcement of the Homework Law and orders promulgated thereunder. It is divided into three supervisory districts.

*The Equal Pay Bureau* is responsible for the administration and enforcement of the law prohibiting discrimination in rates of pay because of sex. The Bureau is directed by an Administrator who is assisted by an equal pay assistant and by investigators of the Enforcement Bureau.

***Over 50,000 visits to restaurants, hotels, laundries, dry-cleaning, beauty service, confectionery and retail trade establishments were made to check minimum wage compliance during 1950.***

- **Bureau of Enforcement** — The field staff of the Bureau of Enforcement visits business establishments in the State of New York, from door to door, to enforce and to determine compliance with provisions of the Labor Law within the Bureau's jurisdiction.

These provisions relate to the seven minimum wage orders promulgated under the Minimum Wage Law; requirements for a day of rest and adequate meal periods; restrictions on child labor; limitations on hours of work of women and minors; requirements for prompt payment of wages without deduction; restrictions on payment of wages by check; and laws requiring registration of employers of migrant farm labor.

The major result of the year's inspection program was the completion in most of the State of first inspections in minimum wage establishments since the revision of the orders in 1947. First inspections are important to explain to employers and employees the provisions of the orders. A special drive was started in January 1950, and by the end of the year, first inspections were completed in all districts throughout the State, except for two districts in the Metropolitan area. In the middle of the year, the drive had progressed to such an extent that it was possible for the Bureau to revert to its normal procedure of investigating establishments in any business, trade, or service.

Aside from routine inspection of establishments for all purposes, the Bureau conducts patrols during certain hours and on certain days when violations of particular sections of the Labor Law are most likely to occur, for the purpose of detecting these specific types of violations. Special visits are made for various purposes: to determine if employees are encountering expense or difficulty in cashing wage checks; to post schedules of hours for employers desiring to change working arrangements; and to furnish information to employers, unions, and others as to legal requirements so that voluntary compliance may be promoted.

During all inspections, Bureau personnel inquire into compliance with requirements for the carrying of workmen's compensation insurance. In cases of apparent violation, the inspector serves a Departmental summons calling for the employer's appearance before the Workmen's Compensation Board, and submits to the Board a duplicate for its information. Similarly, inspectors seek information concerning the payment of unemployment insurance taxes where required by law. Where adequate evidence of compliance with the Unemployment Insurance Law is not furnished to the inspector, he prepares a referral form for submission to the Division of Placement and Unemployment Insurance. The Bureau also assists in miscellaneous investigations. Staff members in the New York City area, for example, were assigned to the New York State Displaced Persons Commission to investigate the financial responsibility of sponsors of displaced persons seeking to enter this country and to verify the availability of jobs for such displaced persons.

- **Visits and Inspections**—A total of 81,800 establishments was inspected during the year. This represented 23 percent of all establishments subject to laws enforced by the Bureau. In 1949, 79,700 establishments were inspected. The retail trade industry had the greatest numerical and percentage increase in inspections, accounting for 41 percent of all establishments inspected during 1950. Of the total number of establishments inspected during the year, 67 percent were inspected for compliance with minimum wage regulations. This compares with 63 percent in 1949.

In addition to these inspections, 20,450 places were visited during the year in the course of patrols, and 775 establishments were investigated as the result of complaints of withheld wages.

The law requires employers to pay their employees in cash unless permission is granted by the Industrial Commissioner to pay by check. When an employer submits an application to pay wages by check, an investigation is made of the employer's financial responsibility and to determine whether employees will be able to cash their checks without expense or difficulty. Where necessary, the inspector suggests adequate check-cashing arrangements. During the year, the Department issued 1,664 permits authorizing payment of wages by check and denied 26 applications.

- **Violations**—During the year, about 25,700 establishments were found to have violated one or more provisions of the Labor Law. Over 18,000 of these violations were for failure to keep adequate records. Of all minimum wage establishments inspected, 32 percent violated the record-keeping provisions of the law, 10 percent failed to pay the minimum wages required, and about 5 percent were not in compliance with the hours, child labor, or wage payment provisions. About 10 percent of the establishments not covered by wage orders had violations.

Inspectors found 5,045 employers paying less than the minimum rate prescribed in the seven minimum wage orders: laundry, dry cleaning, beauty service, confectionery, hotel, restaurant, and retail trade. About two-thirds of these violations involved the failure to pay minimums to women and minors and the remaining violations affected men workers. In all, 15,140 employees were affected by these underpayments which totalled $675,000 or an average of $45 an employee. In 1949, underpayments reported amounted to about $724,000 owing to 18,500 employees in about 6,000 establishments, an average of $39.00 an employee.

Of the seven minimum wage industries, the hotel industry had the highest violation ratio for underpayments (22 percent), and the retail trade industry the lowest (6 percent). The ratios for the other industries were: beauty service, 19 percent; restaurant, 13 percent; confectionery, 12 percent; laundry, 11 percent; and cleaning and dyeing, 9 percent.

The Bureau collected underpayments amounting to over $495,000 from 5,339 firms and paid the money to 13,333 employees. In 1949, the amount collected was $534,000 for about 14,700 employees in 5,700 establishments.

- **Child Labor Violations**—In the enforcement of child labor laws, inspectors found violations in 2,467 establishments. The violation ratio was 2.5 percent both for industries covered by wage orders and for all other industries. The amusement industry had by far the highest ratio, child labor violations were found in 27 percent of the amusement places inspected.

*The regular summer program of visiting farms to check on Labor Law compliance covered almost 1,000 farms employing about 25,000 workers. A substantial decline in violations was found.*

The number of children illegally employed in these establishments totalled 3,633. Of these, 559 were under 14 years of age, the legal minimum age for employment outside of factories. In most of the other cases the violation consisted of the employment of a child 14 to 18 years old without an employment certificate.

As compared with 1949, child labor violations showed a decline during 1950. The number of establishments in violation dropped from 2,826 to 2,467, and the number of children illegally employed decreased from 3,929 to 3,633.

Over 350 restaurants were employing females more than 48 hours a week or past midnight. Hours violations among other types of establishments were relatively insignificant, constituting less than one-half of 1 percent of the total firms inspected.

- **Hearings and Prosecutions**—First violations in most cases are disposed of by giving the employer notice of the nature of the violation and the requirements under the law. In cases of second violation, the Bureau recommends that the employer be summoned to a Departmental hearing. Departmental hearings also are recommended for serious first violations of the child labor and hours laws, and for the first violations of the Minimum Wage Law where satisfactory arrangement for restitution of wage underpayments cannot be effected by Bureau personnel. Only in cases of wilful or repeated violations or refusal to comply is prosecution recommended.

During 1950, 2,705 hearings were held on violations of all sections of the Labor Law enforced by the Division. The comparable figure for 1949 was 2,826. Of the total number of hearings held during the year, 1,115 were for wage claims, 447 were for child labor violations, and 362 for hours violations.

The number of prosecutions begun during the year was 455, compared with 201 during 1949. Two-thirds of this increase represents a rise in the number of prosecutions under the wage payment law, with smaller increases in legal action resulting from failure to pay minimum wages and from violation of the hotel and restaurant hours laws.

- **Farm Program** — Continuing its emphasis on farm inspections during the summer months, the Bureau of Enforcement again assigned investigators to visit farms during the summer of 1950. Many hundreds of farms were visited throughout the State, including fruit, vegetable, duck, nursery, and dairy farms to ascertain compliance with child labor laws and the Migrant Registration Act. At the same time, attention was given to the wage payment laws to insure that wages are paid on time and in cash, unless a permit is obtained to pay by check.

Before investigators were sent out to check for compliance, visits were made by the supervisory and field staff to agricultural county agents in the area, and to State Employment Service offices, to the Department of Education, and to growers' associations, to obtain information regarding the labor supply, crops, and farm conditions in general. At the same time, information was supplied on the provisions of the labor laws to the various officials, which they in turn could pass on to farm employers.

Most child labor has been found on fruit and vegetable farms. During 1950, 918 such farms were visited employing 24,500 workers. The utilization of children on farms has declined sharply during the past three years. In 1948, 20.5 percent of all workers were under 16 years of age; in 1949 the proportion fell to 9.8 percent and in 1950 to 9.7 percent. Compliance with the child labor regulations has increased markedly during this period. Of the total work force on farms inspected in 1948, 19 percent were children 14-16 years old working without farm work permits or were under 14 years of age; in 1949 the proportion of children illegally employed dropped to 6 percent, and in 1950 to 4 percent.

During the year, 11 persons were prosecuted for the illegal employment of children on farms. Convictions were obtained in the nine cases completed. Two cases had not been completed by the end of the year. There was an increase in the number of employers of migrant workers who registered under Section 212:a of the Labor Law. In 1950, there were 277 registrations covering 18,311 workers, compared with 253 registrations covering over 16,800 workers in 1949. During 1950, 74 violations were reported for failure to comply with the Migrant Registration Act, a substantial decline from the previous year. Fourteen employers were summoned to Departmental hearings for failure to comply with the law.

- **Educational Services**—An important phase of the activities of the Bureau of Enforcement is its educational service. It attempts to inform employers, employees, other governmental agencies, and the interested public generally of the multiplicity of requirements within the Bureau's jurisdiction. In this manner, voluntary compliance prior to inspection and detection of violations is enhanced.

With the increasing appreciation of the role played by the Labor Department, a greater number of colleges and universities have requested speakers on the various provisions of the Labor Law and their enforcement. Staff members appeared on numerous radio programs and made speeches before various groups, including schools, universities, colleges, civic, business, employee, fraternal and governmental organizations. The Bureau also participated in the education and training of groups of representatives from foreign governments interested in American labor administration, and of Cornell University students performing field work in connection with their studies in the School of Industrial Relations.

The public relations work proved invaluable in the enforcement of labor laws in areas generally inhabited by Puerto Ricans. With the aid of an interpreter supplied by a Puerto Rican organization, inspectors were able to obtain complete facts in minimum wage investigations. In Nassau and Westchester counties, the establishment of local field offices facilitated the dissemination of information on the provisions of the laws.

The Division's Information Unit in the New York City office handles telephone inquiries, interviews persons visiting the Bureau with complaints, and supplies information to the public concerning the Labor Law generally, laws within the Bureau's jurisdiction specifically, as well as the location of various governmental agencies having jurisdiction over related matters not handled by the Bureau itself. During the year, the unit conducted over 30,000 personal interviews and answered over 70,000 telephone requests for information.

- **Wage Claims Unit** — The chief function of the Wage Claims Unit is the adjustment and collection of claims for withheld wages of workers in New York City who seek the Department's assistance. The Unit gives advice to workers in matters involving fraud and other improper practices on the part of their employers. The Labor Law requires employers to pay wages to employees weekly, not more than six days after they have been earned. The term "employee" is defined as a "mechanic, workingman or laborer working for another for hire."

Section 199 of the Labor Law requires the Industrial Commissioner to investigate and first attempt to adjust equitably controversies between employers and employees with respect to wage claims. The Commissioner is further empowered to take assignments of wage claims and may institute civil or criminal proceedings in connection therewith. The Commissioner, however, is vested with discretion as to the institution of court proceedings in any particular case.

*In line with its responsibility to help workers collect unpaid wages, the Wage Claims Unit of the Industrial Relations Division collected over $200,000 in withheld wages for employees during the year.*

The procedure followed by the Unit in the processing of claims consists of the filing of a formal claim by the employee, either in person at the office or by correspondence. Thereafter the claim is investigated and attempts are made to reconcile differences by correspondence. If this fails to produce a satisfactory settlement, the parties are invited to appear at an informal hearing where further attempts are made to adjust the claim and effect payment. The majority of claims determined to be valid are disposed of in this manner. Where employers are financially unable to make lump sum payments, arrangements are made for installment payments. Such payments are made to the Wage Claims Unit and the proceeds distributed to the employees involved.

In instances where persuasive measures fail to result in a satisfactory settlement and the employer proves uncooperative or has a record of persistent violations, the case is referred to the Attorney General for criminal prosecution. Such a violation is a misdemeanor punishable upon conviction under Section 1272 of the Penal Law by a fine or up to a year in jail, or both. Under this law officers of corporations who knowingly permit the corporation not to pay wages are criminally responsible. In such cases, the courts generally order the defendants to pay the outstanding wage claims as an alternative to a jail term. This has resulted in the collection of many thousands of dollars for workers from officers of defunct corporations.

- **Wages Collected** — The sum of $204,000 in unpaid wages was collected for claimants during 1950. This compares with $160,000 in 1949. The continuing increase in the number of claims can be attributed to the fact that the work of the Wage Claims Unit is receiving growing recognition among employees and their unions. In many instances, local magistrates refuse to entertain wage claim complaints, referring the employees to the Wage Claims Unit with the explanation that if the Department after investigation determines that the situation warrants pros-

*Enforcement of the Equal Pay Law, protecting workers against unfair discrimination in pay rates because of their sex, involved some 1,600 investigations during 1950.*

ecution, proceedings should be instituted by the Department.

During the year, a total of 5,121 claims were accepted by the Department for investigation and collection. Of this number, 3,522 claims originated in the Metropolitan area and 1,599 upstate. In 1949, 4,757 claims were filed—3,013 in the Metropolitan area and 1,744 upstate. This is a 17 percent increase in the Metropolitan area and an 8 percent decrease upstate. There were 274 cases referred to the Attorney General for prosecution in the Metropolitan area during 1950, compared with 119 cases in 1949.

• **Equal Pay Bureau** — The Equal Pay Law, which became effective on July 1, 1944, is administered by the Bureau of Equal Pay of the New York State Department of Labor. The statute (section 199-a of the Labor Law) provides: "No employee shall, because of sex, be subjected to any discrimination in the rate of her or his pay. A differential in pay between employees based on a factor or factors other than sex shall not constitute discrimination within the meaning of this section." Differentials in pay between employees based on a factor or factors other than sex, such as length of service and quality and quantity of work, are permitted.

The law provides that the Industrial Commissioner may recover in a civil action $50 for each offense involving discrimination in rate of pay because of sex; or the Commissioner may institute criminal proceedings for such violations. Domestic and agricultural workers and persons employed by nonprofit establishments organized and operated exclusively for religious, charitable, scientific, literary, or educational purposes are excluded from the law's coverage.

The program of the Equal Pay Bureau has been two-fold: the education of employers, employees and the public; and the investigation of complaints and routine inspection of establishments, particularly those in service industries, by investigators of the Department.

Meetings and conferences were held with women's groups, employer associations, and unions. The law has been discussed in colleges and high schools. Personal calls on executives of industrial establishments have been made by members of the Equal Pay Bureau staff, and the statute has been printed in house organs and business publications. The pamphlet entitled "What is theEqual Pay Law?" has been distributed to thousands of employers, employees, unions, and civic organizations. Employees of service industries have become better acquainted with the Equal Pay Law through its inclusion on a poster summarizing provisions of the Labor Law, which is posted in all places of employment covered by investigators of the Division.

During 1950, more than 1,600 investigations were made throughout the State. Many instances were noted where differentials in pay existed between men and women apparently doing the same work. The differentials, however, were the result of such factors as seniority, difference in job content, late shift, and job apprenticeship.

• **Bureau of Homework Inspection** —The Homework Bureau is responsible for the administration and enforcement of Article 13 of the Labor Law and of the orders and regulations issued by the Industrial Commissioner pursuant to the statute. The Legislature's purpose in enacting the Homework Law is expressed in the preamble to the Article which states that the employment of women and minors under conditions resulting in unreasonably low wages and injury to their health and welfare is a matter of vital public concern. Employment in industrial homework was defined as fostering such conditions and was, therefore, destructive of the purposes already accepted as sound public policy.

Article 13 has been implemented by the isuance of five special industry orders: (1) men's ready-to-wear clothing; (2) men's neckwear; (3) artificial flowers and feathers; (4) gloves; and (5) the direct mail industry. Another order, the General Homework Order applies to all other homework industries. It limits the issuance of employer's permits to distribute homework to permit-holders who were active during a base period between 1944 and 1945, and sets a maximum number of homeworkers that any employer may use.

Under the first four special orders, only employers who held permits prior to the promulgation of the order may distribute homework, and only persons who are unable to work in factories because of advanced age, physical disability, or because their presence is needed to attend an invalid may do industrial homework. The fifth special order, promulgated in July 1950, was the year's outstanding development in the Homework Bureau's program of carrying out the legislative mandate of "strict control and gradual elimination of homework."

• **Direct Mail Order**—The issuance of special Homework Order No. 5, Prohibiting Homework on Typing, Addressing, Mailing and Related Processes and Operations marked the culmination of long study and consideration of all aspects of the direct mail industry. The Division of Research and Statistics, at the Industrial Commissioner's request, conducted a study of the industry which was used as the basis of the order. Prior to the issuance of the order, numerous conferences were held by the Commissioner with representatives of all segments of the industry, including several employer associations, unions representing the majority of employees in the industry, and representatives of the public. A public hearing was held by the Commissioner in May 1949. Proponents for the elimination of homework in the industry showed that homework resulted not only in lower wages and irregular employment for the shop typists, but also made fair competition among employers extremely difficult. There was evidence of the exploitation of homeworkers as shown by very low rates paid in many cases and of highly irregular employment and pressures exerted on homeworkers by some employers.

The order, as finally issued, recognized the fact that homework distribution in this industry had not previously been regulated. With this in mind, the approach taken was one calculated to bring about the gradual elimination of homework without undue disruption in the industry. The possibility that there might not be a sufficient number of typists available for shop work was considered, as was the limited resources of some firms currently doing business in the direct mail industry. For these reasons, a section of the order specifically provides for the granting of exceptions where circumstances warrant. At least during the initial adjustment period following the promulgation of the order, the section permitting exceptions is being liberally interpreted so as to avoid any undue or unnecessary hardships. A number of affected firms have filed appeals from the order with the Board of Standards and Appeals.

• **Investigation Procedure**—The investigations conducted by the Bureau may be divided into two main groups—inspections of employer and inspections of homeworkers. In the course of visits to employers, payroll, production, and connected financial records are examined to determine whether there has been illegal homework, and whether the terms under which the permits and certificates may have been issued are being complied with. At the same time investigators check for compliance with requirements of the workmen's compensation, unemployment insurance, and the equal pay laws.

Visits to homeworkers are made to determine eligibility for special certificates in restricted industries and to ascertain compliance with regulations. Where illegal homework materials are found the inspector tags and seizes them.

In addition to regular visits to employers and homeworkers, the Bureau carries on an educational program involving visits and meetings with groups interested in industrial homework. These activities include attendance at conferences with employer and employee associations and unions, and representation on the Committee for the Homebound of the New York City Welfare Council. The Bureau is in contact with many hospitals, homes for the aged, and sheltered work shops of all kinds in connection with their problems involving homework. The purpose of such visits is to bring an understanding of the objectives of the Industrial Homework Law and to insure that where industrial homework is carried on by handicapped persons it is not subject to exploitation by unscrupulous employers.

*Workers engaged in homework manufacture — which includes scarf, artificial flower and necktie making— are protected by the activities of Homework Bureau which inspected some 8,000 establishments last year.*

• **Inspections** — During the year, 7,904 establishments were visited and inspected, almost 2,200 more than the 5,720 completed employer-inspections in 1949. The number of homeworkers' residences inspected during 1950 totalled 13,800, as against 16,600 in 1949. The explanation for this increase in the number of establishments inspected and the corresponding decrease in the number of homeworkers inspected is that enforcement has been strengthened by devoting a greater proportion of inspection time to visits to employers, and a smaller proportion to visits to homeworkers. Experience has shown that efficient and effective coverage is obtained if inspections are directed at the source of the distribution of homework rather than at the place where the homework is being performed. Employer inspections usually take three to five times as much time as a homeworker inspection.

Enforcement drives were undertaken during the year in the following industries: shoulder strap, embroidery, weaving and clothes repairing, umbrella, photo coloring and retouching, and drapery and slip cover. The field staff reported a total of 1,183 violations throughout the State. More than half of these, 679 involved the distribution of homework by employers who did not hold permits. During 1949 there were 695 violations reported for employers without permits.

Departmental hearings were held in 348 violation cases during the year, and 84 cases were referred to the Attorney General for prosecution. Including some cases that were pending at the beginning of the year, a total of 87 prosecutions were completed during the year, all of which resulted in convictions.

• **Extent of Homework**—A comparison of the number of permits and certificates currently outstanding with that in previous years best illustrates the effectiveness of the Bureau's inspection activities. Exclusive of the direct mail industry, there were 783 employers' homework permits and 8,555 homeworkers' certificates outstanding in the State on December 31, 1950. This compares with the 836 employers' permits and 9,640 homeworkers' certificates in force on January 1, 1950.

A reduction in the use of homework as a means of production occurred in practically every industry covered by a homework order, including those under special restrictive orders as well as those under the General Homework Order. There has been a steady decline in the number of employer permits in force since the peak year of 1944. At the end of that year 1,576 permits were in effect. By the end of 1947 the number of employers who could legally distribute homework was down to 1,002. There was a reduction to 960 in the following year, followed by a sharp decline to 836 by December 31, 1949. During 1950 the rate of decline was approximately five firms per month. The present volume of employer permits in force is approximately one-half the 1944 peak. The number of certificated homeworkers is one-fourth of that in the peak year of 1937. At the present time there are, on the average, 11 homeworkers for each firm distributing homework.

The order for the direct mail industry became effective on September 1, 1950. By the end of the year, 99 employer permits and 3,336 homeworker certificates had been issued under Special Homework Order No. 5 Prohibiting Homework on Typing, Addressing, Mailing and Related Processes and Operations.

- **Cooperative Activities**—The Bureau continued its cooperative program with the Wage and Hour Division of the United States Department of Labor. These coordinated activities are continuing to play an important role in controlling homework by eliminating inconsistencies in enforcement procedures through which some employers had been able to continue homework distribution.

One of the important ways in which employers secured new homeworkers was through newspaper advertisements in the "Help Wanted" columns. It was found that many employers who did not have homework permits and were not even eligible for such permits were able to secure homeworkers through this means. Staff members of the Bureau visited most of the Metropolitan newspapers, including foreign language newspapers, and secured in most instances their agreement not to publish advertisements for homeworkers without first verifying with the Bureau that the prospective employers were permit holders.

## BEDDING DIVISION

**PROTECTS consumers, labor and industry by thorough inspection and analysis of materials used in bedding and upholstered furniture . . . regulates the tagging of finished products to safeguard against both disease and fraud . . .**

The protection of the public in the purchase of articles of bedding and upholstered furniture is the responsibility of the Division of Bedding.

The State Bedding Law provides that all articles of bedding made from all new materials have a white tag securely and conspicuously attached thereto describing the soft filling materials. All articles containing any second hand material must be tagged as such with a yellow tag. It further provides that materials requiring sterilization be properly sterilized by an approved process and the permit number of such process be indicated on the tag. The Bedding Division has always been a self-sustaining unit with the amount of fees collected exceeding administrative costs.

Under the administration of a Director, the activities of the Division are carried on by three units. 1) The Inspection Unit inspects articles and materials for proper sterilization and tagging. 2) The Laboratory Unit analyzes filling materials and conducts research work in the development of new testing procedures. 3) The Administrative Unit handles the registrations of manufacturers, processors, and second-hand dealers, and issues sterilization process permits and inspection stamps. There is an Advisory Board of nine members appointed by the Governor. Besides advising the Industrial Commissioner, the Board may promulgate rules, which when approved by the Commissioner have the force and effect of law. There is an Assistant Attorney General who works with the Division in the handling of court trials of violators of the law.

- **Inspection Unit**—In enforcing the provisions of the Bedding Law (Article 25A of the General Business Law), inspectors of the Division made 27,489 inspections, investigations and visits from January 1, 1950 to December 31, 1950. Completed inspections were made in 13,175 establishments.

***Analysis of samples of bedding articles to ascertain if contents are as labelled is an important operation of the Bedding Division. Over 3,000 such samples were analyzed during 1950.***

The Division received 146 complaints from private citizens of violations of the law. The number of orders issued by inspectors directing manufacturers and dealers to comply with the law totaled 30,709 for the year.

During the year, inspectors of the Division placed off-sale or seized 39,842 articles which did not meet the requirements of the law. A large portion of these articles was surplus commodities sold by various United States Government agencies. Purchasers of such surplus commodities were invariably unaware of the provisions which make it necessary for them to register, to obtain inspection stamps and to attach proper tags to all articles of bedding, in accordance with requirements.

- **Prosecutions** — The more serious violations of the Bedding Law are referred to the Legal Unit for hearings, and when warranted they are submitted to the Attorney General. During the year prosecution was begun on 84 cases referred to the Attorney General's office.

The defendant in one typical case was a large manufacturer of cotton felt, located in Bronx County. The case involved bales of cotton felt sold by the manufacturer to various upholsterers and mattress manufacturers in the metropolitan area. Samples were taken from two bales found at an upholsterer's shop with tags labelling the contents "All New Material." Analysis revealed that the samples contained second hand material contrary to the representations made on the tags.

In Court, the defendant originally pleaded "not guilty," later changed the plea to "guilty" and was fined $100 on the first count. Additional fines of $150 in each of the second and third counts were suspended "during good behavior."

In another case it was ascertained that the articles remade for the complainant had been improperly tagged in violation of law. On one of the articles, the statements required by law were illegibly printed on the tag. The remaining articles did not have the the required tags attached. The defendant was taken into court and, on a plea of guilty, was fined $100.

- **Laboratory Unit**—During the year, the Laboratory Unit analyzed 3,014 samples and made 8,936 determinations, or approximately three determinations to each sample. Of the total number of samples analyzed, 2,837 were taken by inspectors where viola-

WOMEN'S BUREAU
U. S. DEPARTMENT OF LABOR
Washington

CONFIDENTIAL

# DEFENSE EMPLOYMENT OF YOUNG WOMEN UNDER THE AGE OF 18 INADVISABLE

I. Only Very Small Proportions of the Female Workers Are Under 18 Years of Age (missing)

II. Munitions Plants Ordinarily Employ No Women Under 18

III. Aircraft Company Policy in Several States Indicates Employment of Women Under 18 Undesirable

IV. Economists' Reports Show Ample Labor Supply Now Available

V. Protection from Industrial Injuries is Especially Important for Young Workers

VI. British War Experience Seeks to Safeguard Younger Workers

January 1942

## II. MUNITIONS PLANTS ORDINARILY EMPLOY NO WOMEN UNDER 18

According to reports from Women's Bureau investigators, labor force requirements in plants are based on the principles expected to provide the most effective production. On this basis, defense plants have found a minimum age of 18 years to be the most effective.

The three arsenals - Frankford, Picatinny, and Edgewood - and the Quartermaster Depot at Jeffersonville, Indiana, covered by the Women's Bureau are all under Civil Service. The minimum age requirement is 18.

Similarly in the shell-loading plant at Ravenna, Ohio, 18 years is the minimum for women, who assemble the shells. Only women over 40 were to be employed stitching bags of black powder.

Six artillery ammunition plants and one small arms ammunition plant visited by the Women's Bureau in Indiana, Missouri, Maryland, and Virginia, all report 18 as minimum for women, and all but one of them report 18 as minimum for all employees.

In the Lake City Ordnance Plant (Remington Arms): The policy is to employ no one under 21 on hazardous work; actually few if any of the workers in the plants are under 21.

## III. AIRCRAFT COMPANY POLICY IN SEVERAL STATES INDICATES EMPLOYMENT OF WOMEN UNDER 18 UNDESIRABLE.

Of five aviation plants scheduled by the Women's Bureau in Kansas and Oklahoma, three (Cessna, Boeing, and North American) require an age minimum of 18 years for all employees. The minimum was not ascertained in Aeroparts and Beech Aircraft, both with relatively no women employees. Douglas Aircraft at Tulsa, Oklahoma, has a minimum of 18 years, but no women are employed.

In the Fairchild plant at Hagerstown, Maryland, the women employed are 20 to 32 years of age.

Four aviation plants in California visited by the Women's Bureau (Lockheed, Douglas, Vultee and North American) have a minimum age of 18 yearsfor employment. All of them prefer women over 21 and actually so far have taken on no women and few men under 21.

The vice-president of Consolidated Aircraft states that they have no desire or intention of employing either boys or girls under 18, unless it should be as office boys. They definitely do not feel that the group under 18 would be stable or careful enough to put on defense work. At present the average age of the women employees is 27.3 years and of the men 27.5 years, with the bulk between 22 and 30.

The employment office and other places serving as sources of labor supply for the San Diego area report no requests for either boys or girls under 18 years from aviation plants. At this age level requests were for delivery and errand boys only.

The U. S. Employment Service in San Diego estimates that there is a reservoir of 30,000 employable women betwen 18 and 21 years and above 35 years that can be tapped.

Training school personnel in San Diego believe that it is inadvisable to train the 17 to 18 year group, one of their objections being that the aircraft industry is not interested in the young woman.

## IV. ECONOMISTS' REPORTS SHOW AMPLE LABOR SUPPLY NOW AVAILABLE

Without entering into abstruse statistical details at this point, it can be stated confidently that an amply sufficient labor supply will be available in this country for a long period in the future, according to the most expert estimates of labor needs. The available supply of labor will fully take care of the needs created by (1) withdrawal of certain classes of men for the armed forces and (2) increase in labor needed for defense production.

There are a number of labor reserves that have not yet been deeply tapped and that for a long time to come will serve as adequate to secure necessary increases in production without drawing on the youth under 18. For example, the following methods can be employed for a better use of labor, in addition to employment of the unemployed and of women and other reserves of labor not now at work:

Full employment for those not fully employed
More efficient use of plant capacity
Reemployment of those unemployed because of curtailment
  in certain production for civilian use
More efficient upgrading of skills
Further training of workers.

The shortages most difficult to overcome are in certain particular skills, and these can be developed best and most quickly in workers beyond the age of 18.

## V. PROTECTION FROM INDUSTRIAL INJURIES IS ESPECIALLY IMPORTANT FOR YOUNG WORKERS

Data on industrial injuries show younger workers especially susceptible to such injuries. The increase in the industrial injuries under the defense program has been enormous. The National Safety Council reported an increase of 16 percent in the accident frequency rate early in 1941 over the preceding year. To increase numbers of young workers is likely to increase materially accidents to them.

Moreover, young women are particularly susceptible to certain industrial poisons. The experience of the last war showed that when many new and untried substances were introduced into industry, their effects on the workers often were unknown until many serious injuries had resulted. The same is likely to be the experience today. It is especially important, therefore, that younger workers be not exposed to these dangers as long as the supply of workers is sufficient to make it unnecessary to call on younger groups.

## VI. BRITISH WAR EXPERIENCE SEEKS TO SAFEGUARD YOUNGER WORKERS

Before the war, Great Britain did not adhere to the child labor standards customary in this country. However, during emergency conditions in no case has authority been given for night employment of girls under 18.

March 24, 1942

# AVAILABILITY OF WOMEN FOR WAR INDUSTRIES

NOTE. Women ordinarily cannot go into war industries under age 18 as many of them are hazardous industries under the Fair Labor Standards Act. Neither 18-year nor 16-year breakdowns are available for data on married women.

1. Number of Women in the United States (1940) -

| | |
|---|---|
| Aged 16-44 - | 30,788,000 |
| Aged 18-44 - | 28,348,000 |
| Aged 20-44 - | 25,831,000 |

2. Number of Married Women (Estimate for 1940) -

| | |
|---|---|
| Aged 15-44 - | 19,514,000 |
| Aged 20-44 - | 18,831,000 |

(1940 figures are not yet available. Figure obtained by applying 1930 proportions to 1940 data; youngest age group 15-19 for married; hence ages 16-44 and 18-44 not obtainable.)

3. With Children Under 10 (a rough estimate) -

(Age of women not reported) - 14,363,000

(1940 figures not yet available. 1930 reports, families having small children; applying 1930 proportion of families with small children to 1940 gives a rough estimate, assuming one woman caring for each such family.)

4. Number of Women Now Employed (1940) -

| | Women 18-44 | Women 16-44 |
|---|---|---|
| A - Total in Labor Force | 9,720,181 | 10,042,386 |
| Employed (except on public emergency work) | 8,468,252 | 8,661,087 |
| On public emergency work | 287,150 | 310,356 |
| Seeking work: | | |
| Experienced - | 732,465 | 771,859 |
| New workers - | 232,314 | 299,084 |

B - In Manufacturing Industries (age not reported) -

| | Women |
|---|---|
| Total | 2,612,376 |
| Wage earners | 2,235,586 |
| Distribution workers | 144,762 |
| Clerical workers | 232,028 |

5. Number of Women Affected or Likely to be Affected by Priorities and Material Shortages in Manufacturing Industries - (Estimated from available official reports and data from authentic publications - age not available.)

(This is not a complete estimate of women "available from non-essential industries," there is no complete official list of such industries. The list used for this figure includes industries restricted because plant, materials, supplies, or labor are needed for more direct war production. In the case of many of the industries included in the figure given here, though the total number of women employed is used for the purpose of this immediate report, not all these would be available for war industries since the industry is only partially cut down; the proportional effect on woman employment could be estimated only arbitrarily; some of these already have been converted to war manufacturing. Moreover, this figure applies to manufacturing only, and other occupations and categories also will furnish women, as indicated for example in No. 2, No. 4, and No. 7. Additional women are continually being affected by decisions appearing from time to time as to priorities and conservation of specific materials.)

| | Women |
|---|---|
| Total | 291,000 |
| Wage earners | 250,000 |
| Distribution workers | 16,000 |
| Clerical workers | 25,000 |

6. Number of women who could replace men who are called in war services (combat services) (Estimated) -

Women 18-44 who could be recruited this year (1942) - About 6,000,000 (See attached A and B)

7. Number of women in domestic service (Estimate for 1940) -

| | |
|---|---|
| Aged 16-44 - | 1,516,000 |
| Aged 18-44 - | 1,410,000 |

Occupation data in 1940 are reported for 42 States, (age not reported; number who were 16-44 obtained by applying 1930 proportion); the remaining 6 States are major industrial States and had in 1930 practically a third of the household employees in the age groups here used; figures obtained by adding to 1940 reported data a proportion to account for the remaining 6 States.

RESEARCH DIVISION

Also in MEP's file

4-11a

April 15, 1942

Memorandum

To: Miss Nienburg

From: Mary Elizabeth Pidgeon

Employment Service data reported for December and January have just been received this morning. There is no report of placements by sex such as formerly was included.

Total placements declined about 9 percent from December to January; but they were 7 percent above January 1941.

For the fourth successive month, there was an increase in primary registrations of fully qualified and available job seekers in 623 selected defense occupations.

However, registrations were insufficient to fill expected needs in aircraft, ship-building and machine-shop occupations.

1940 CENSUS                                                                 March 29, 1942

## AREAS FOR WHICH LABOR FORCE TABULATIONS ARE PUBLISHED

| Tabulation | 92 cities 100,000 + | 5 Met. cities (incl. N.Y. boros.) | States | Geog. Divisions. | Regions N, S, W. | U. S. by urban, R-F R-N-F | U. S. |
|---|---|---|---|---|---|---|---|
| Labor force (5) and non-labor force (6), by sex | - | P-4-6 | P-8<br>(P-4-a) | P-4-a | P-4-9 | P-4-4,8 | P-4-1, 3,4,8,9 |
| By color | - | P-4-6 | P-4-a | P-4-a | - | P-4-4 | P-4-3,4 |
| By age (5 classes) | - |  | (1) | (1) | - | P-4-4 | P-4-3,4 |
| By color and age (5 classes) | - |  | (1) | (1) | - | P-4-4 | P-4-3,4 |
| By age (18 classes) | - | - | - | - | P-4-9 | P-4-8 | P-4-8,9 |
| By color and age (18 classes) | - | - | - | - | - | - | - |
| By urbanization (U,R-F, R-N-F) | - | - | P-8<br>(P-4-a) | P-4-a | - | - | -- |
| Labor force (3) and non-labor force (1), by sex | P-4-7 | P-4-6 | P-8<br>(P-4-a)<br>(P-4-2) | P-4-a<br>P-4-2 | P-4-9 | P-4-4,8 | P-4-1,2 3,4,8,9 |
| By color | 2/P-4-7 | P-4-6 | 2/P-4-a<br>2/P-4-2 | P-4-a<br>P-4-2 | P-4-9 | P-4-4,8 | P-4-3,4, 8,9 |
| By age (5 classes) | - | P-4-6 | P-4-a | P-4-a | - | P-4-4 | P-4-3,4 |
| By color and age (5 classes) | - | P-4-6 | P-4-a | P-4-a | - | P-4-4 | P-4-3,4 |
| By age (18 classes) | - | - | - | - | P-4-9 | P-4-8 | P-4-8,9 |
| By color and age (18 classes) | - | - | - | - | P-4-9 | P-4-8 | P-4-8,9 |
| By urbanization (U,R-F,R-N-F) | - | - | P-8<br>(P-4-a) | P-4-a | - | - | - |
| Employment incl. and excl. N.Y.A.: | - | - | P-4-5 | P-4-5 | - | - | P-4-5 |

Note: P-4-a gives data for the 9 geographical divisions and the 9 largest States (Calif., Ohio, Ill., Penna., Mass., Mich., New York, New Jersey, Texas), with employment status only for all States in each geographical division.

P-8 gives final figures, superseding those given by forms listed in parantheses. States still not available include New York, Calif., Mass., Ill., and Penna.

1/ Experienced and new workers obtainable separately through computation based on P-4-a thus giving 5 classes for labor force. No non-labor break-down force available.

2/ By color for selected States (or cities) only.

March 31, 1942

## SURVEY OF THE EMPLOYMENT OF WOMEN AT THE ADVENT OF THE WAR PERIOD
### A Basis for Analyzing Problems of Woman Labor Supply

1. Employment of women compared with men's by occupation and industry.

2. Status of unoccupied women.

3. Long-time trends in women's employment and their implications for industrial mobilization of women.

    a. Change in occupational distribution of women, 1930-40 based on comparison of selected occupations.

    b. Trend over several decades in specific occupations.

    c. Changes in employment of married women; by occupation, age, etc.

# SKELETON SUMMARY OF CERTAIN CENSUS DATA

(1) Now Available. (2) On which Research has been in progress.

## CERTAIN DATA NOW AVAILABLE (APRIL 1, 1942)

### A. For United States

1. Number in labor force
   (Classified as to employed, emergency workers, experienced seeking, new)
2. Number not in labor force
   (Classified as to unable to work, own home houseworkers, etc.)

[Can get aged 18-44; 16-44; etc.]

### B. For States (Largest industrial States not yet reported)

Labor force
Occupations (not by age)
Seeking work (experienced and new separate, but for cities under 1 million only total)
Emergency workers
Own home houseworkers (not by age)

## CERTAIN CENSUS DATA ON WHICH RESEARCH HAS BEEN IN PROGRESS

I. Preliminary Analysis of Changes shown by Census of Manufactures (Percent Women 1929 and 1939)
(Involves considering changes in composition of industry groups 1929 and 1939.)

II. Preliminary Analysis of Possible Comparisons of Women's Occupations Reported 1930 and 1940.

III. Continuing Consideration of Numbers of Women Likely to be Affected by Priorities Unemployment.
(A rough in-progress estimate gives a figure conservative but still probably not adapted for very wide public use.)

IV. Considerations and Estimates as to Possible Labor Supply Among Groups of Women Not Usually Employed.

- a. Women at home and not home makers (age 18-44)
- b. Homemakers without young children
- c. Domestic employees (occupation data not reported for States employing one-third of such workers in 1930) (No age data available)
- d. Girls leaving school each year.

## EMPLOYMENT SERVICE REPORTS

### Figures by Sex and Occupation

Quarterly figures on placements, available by sex and occupation are what we have more recently used. These for the 3rd Quarter of 1941 were available to us in March 1942. These give the best available overall picture by occupation group.

### Analysis of Labor Market

The monthly summary Labor Market Developments began appearing about April 1941 - giving an analysis of pertinent facts and interpretations without a statistical reporting but separated by geographic area. This has been helpful to us.

### Placements in Defense Industries

Placements in a selected list of defense industries were reported by sex through about the first half of 1941, furnished the Women's Bureau in unpublished form.

These were not very helpful to us, took a considerable amount of our time to get, and were always quite late for our use. Later they were mimeographed, but not by sex. We have recently used the Labor Market Developments instead of this.

### Data by Sex in General

We understood that the requirement was going out to gather all data by sex as of January 15, 1942. Naturally the first results of this will be slow and incomplete. In some issues of material it will appear, in others not. The regular monthly reports of data on placements and applications by sex and State (but not by occupational group) still remain the most usable, December data became available to us near the end of March.

At one time we tried to get these data prior to publication (though they were not by occupation). They always were about three months back. Any system we devised for prompt and continuous receipt would only continue for a few months. (This may have been due to their changing methods). To continue this as a regular effort, the results did not justify the amount of our time taken.

1942

# EMPLOYMENT OF WOMEN IN WARTIME

Considering the entire labor force of the United States, the employment of women has been increasing at a faster rate than that of men. The WPA Monthly Report of Employment and Unemployment indicates that during the year ending with May 1942 the number of women employed rose by 1,700,000, whereas for men the corresponding figure was 1,400,000. When the manufacturing industries only are considered, the reverse is true. Thus, data collected by the Bureau of Labor Statistics show that in the year ending April 1942, although nearly 200,000 additional women had been employed, this represented an increase of only 8 percent as compared with 12 percent for men. The situation in individual manufacturing industries varied considerably, and in automobile plants the number of woman wage earners actually decreased by 28.1 percent. In the metal-working industries there was practically no change over the 3-year period from 1939 to 1942. In these industries women constituted a much smaller proportion of the total working force than was shown by manufacturing generally; in May 1942 they formed about 13 percent of the total number employed.

## Women in Manufacturing Industries, April 1942 1/

Of the 10,744,000 wage earners employed in private manufacturing establishments in the United States in April 1942, approximately 2,400,000 or 22 percent, were women. This proportion was slightly lower than it was a year earlier, despite an increase of nearly 200,000 woman wage earners 2/ between April 1941 and April 1942. The slight decline in the proportion of woman workers reflects the fact that the number of male factory wage earners increased by almost 12 percent over the year period as compared with a corresponding increase of only 8 percent among the women. (see table 1)

The above estimates by the Bureau of Labor Statistics are based on reports from approximately 22,000 identical establishments employing 4,800,000 wage earners in April 1942. 3/

Although the greater part of the expansion in manufacturing employment between April 1941 and April 1942 took place in the durable goods industries, almost two-thirds of the increase among woman workers occurred in plants manufacturing nondurable goods. This was to be expected since the great majority of woman factory wage earners are employed in nondurable-goods industries. However, it is also indicative of the shift of men from the nondurable industries to many of the higher-paid war industries which account for the greater part of the durable-goods employees. The jobs of these men are being filled by women, who can be trained readily to perform many of the operations. Some operations are being simplified to facilitate this replacement. The employment of women has undoubtedly continued to increase since April 1942, for many new war plants have started operations in rural areas where women form the largest available source of labor supply.

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1/ Prepared in the Employment and Occupational Outlook Branch, Bureau of Labor Statistics.

2/ Including approximately 20,000 women workers in war industries not covered by the Bureau's present manufacturing industry classifications.

3/ The estimates are subject to change since the entire series of employment indexes is now in the process of complete adjustment and revision. More detailed information will be made available at a later date.

The increase in employment among women was general throughout most of the nondurable-goods industries, with a pronounced increase in the chemicals group (table 2). Among the durable-goods industries large relative increases occurred in the machinery, transportation (except automobile), and lumber industries.

### Women in Metalworking and Machinery Industries, May 1942

Additional information concerning the employment of women in industry is available from a survey of employment in metal working and machinery plants. This survey covered 6,171 plants in 108 industries 4/ employing approximately 2,900,000 wage earners, and was conducted in May 1942 by the Bureau of Labor Statistics at the request of the War Production Board.

Although 75 of the 108 industries surveyed showed increases in the proportion of women employed the proportion (13 percent) for the group as a whole was virtually the same in May 1942 as it was in October 1939. 5/ There were downward shifts in only 28 of the industries, but among these were automobile, radio, and other industries employing very large numbers of wage earners. Both the upward and downward shifts in the proportion of women were generally very small.

As a group, the metalworking and machinery plants employed a much lower proportion of women than did manufacturing plants in general. In October 1939, 13 percent of the workers in the selected metalworking and machinery industries were women, whereas in all manufacturing industries combined, women formed 25 percent of the total. The great majority of woman wage earners were in food, tobacco, textile and clothing factories. In 85 of the 108 metalworking and machinery industries, fewer than 25 percent of the wage earners were women.

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4/ Wage earners in the shipbuilding industry were not included in the survey. In May 1942, women accounted for 0.4 percent of the wage earners in this industry.

5/ Interpretation of these comparisons must be made in the light of the fact that the 1939 figures were based on a complete census of the various industries whereas the 1942 figures were based on a sample which, although extensive, did not represent complete coverage.

## Table 1. - Estimated Employment of Factory Wage Earners, by Sex, April 1941 and April 1942
(in thousands)

| Item | April 1941 | | | | April 1942 | | | | Percent increase, April 1941 to April 1942 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Men | Women | % of women | Total | Men | Women | % of women | Total | Men | Women |
| Total manufacturing | 9,677.6 | 7,476.4 | 2,201.2 | 22.7 | 10,744.5 | 8,364.5 | 2,380.0 | 22.2 | 11.0 | 11.9 | 8.1 |
| Durable goods | 4,917.2 | 4,513.5 | 403.7 | 8.2 | 5,771.8 | 5,300.8 | 471.0 | 8.2 | 17.4 | 17.4 | 16.7 |
| Nondurable goods | 4,760.4 | 2,962.9 | 1,797.5 | 37.8 | 4,972.7 | 3,063.7 | 1,909.0 | 38.4 | 4.5 | 3.4 | 6.2 |

## Table 2. - Employment of Women Wage Earners in Selected Manufacturing Groups

| Industry group | Number of women per 1,000 employed wage earners - | | Percent of change in total number of women employed April 1941 to April 1942 |
|---|---|---|---|
| | April 1941 | April 1942 | |
| Iron and steel | 68 | 68 | + 6.7 |
| Machinery (except electrical) | 42 | 46 | + 37.0 |
| Electrical machinery | 266 | 276 | + 28.4 |
| Transportation equipment | 10 | 25 | +555.5 |
| Automobiles | 77 | 87 | - 28.1 |
| Lumber | 16 | 21 | + 32.8 |
| Textiles | 548 | 562 | + 3.5 |
| Leather | 403 | 414 | + 5.3 |
| Food | 223 | 224 | + 7.9 |
| Chemicals and petroleum | 102 | 137 | + 56.6 |

Pidgeon
From Cullen
From Spring about July 4.
1942

**Labor Force as of May 3-9, 1942**

| | Millions of persons | | |
|---|---|---|---|
| | Total | Men | Women 1/ |
| Labor force | 54.2 | 40.0 | 14.2 |
| Employed | 51.6 | 38.4 | 13.2 |
| Unemployed | 2.6 | 1.6 | 1.0 |

1/ An increase of 400,000 women employed between April and May - unemployed same both months.

Source: Federal WPA

July 2, 1942

## UTILIZATION OF WOMEN IN THE WAR EFFORT

### EMPLOYMENT OF WOMEN

In May 1942, 13.2 1/ million women were employed in the United States - 25.6 percent of total employment - 400,000 more women than were employed April 1942. Of these 1½ million were on war work. 1 million women were unemployed.

By end of 1942 - 14 to 15 million 1/ women will be employed,
of these about 3½ million on war work.

By end of 1943 - Over 17 million 1/ women will be employed,
of these at least 5½ million on war work.

### ESTIMATED INCREASE IN EMPLOYMENT OF WOMEN

2 million more employed women will be needed by end of 1942

At least 5 million more women than are employed now will be needed by end of 1943.

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1/ Includes war work, consumer goods production, farm, and all other industries.

## WHAT ARE THE PRINCIPAL SOURCES OF THESE ADDITIONAL WOMEN WORKERS?

1. 1 million unemployed women.
2. 5½ million women from 18 to 44 years old - now engaged in own home housework, and having no children under 10 years.
3. 100,000 women between 16 - 18 years of age - in own home housework, and having no children under 10 years.
4. 884,000 girls 18 years of age and over in school.
5. 1½ million girls from 16- 18 years old in school.

# EMPLOYMENT OF WOMEN IN WORLD WAR I

During World War I, the proportion of women employed in war industries more than doubled, increasing from 6.5 percent to 13.9 percent of the total war industry employment. In the Aircraft industry the percent of women employed increased from ½ of one percent to 18.6 percent of all workers.

The largest proportion of women (37.1 percent) was employed in the optical goods industry. About 1/3 of the employees in the leather and in the photographic supplies industries were women, 18 percent in the metal products and 17 percent in instruments, scientific and professional.

## CURTAILED AND CONVERTED INDUSTRIES

Rubber. In most cases, the opportunity of released rubber workers for reemployment is very good, as rubber companies are requiring large numbers of workers for their new ordnance and aircraft production and in many plants workers who had been laid off have been rehired and new workers added. Over 8,000 women were employed in the rubber industry in Akron in July, 1941, and the large women employing plants now have war contracts that will require many more workers. The absorption of disemployed rubber workers has been facilitated by an agreement drafted last year by labor, Government, and industry protecting the senority rights of displaced rubber workers who transfer to war production, either within the rubber industry or elsewhere.

Textiles, apparel, shoes, and other related industries. The demand for workers in the metal trades is causing a serious shortage in these industries in New England. Women are more and more replacing men in textile mills and shoe factories. In many areas, women now out of the labor market will have to be induced to return if the textile plants are to maintain their production.

In the apparel industry as in other civilian industries, the higher paying jobs in the war industries have drawn off experienced workers. To check this, several wage adjustments have been made. About 81 shirt manufacturers in New York, Pennsylvania, New Jersey, and Connecticut agreed to a 10 percent wage increase April 16, and a National union agreement covering the entire men's and boy's clothing industry provides for approximately 10 cents an hour increase for its 150,000 union members.

The carpet and rug industry has been particularly hard hit as conversion of the plants to war production is doubtful and the skills of the displaced workers are not particularly adaptable to war work.

B.L.S.

## Aircraft Assembly Plants -

In May, 1942, about 24,350 women were employed on productive work in Aircraft Assembly plants. This was nearly 40 percent more women employed than in April, and over 10 times more than before Pearl Harbor (Nov. 1941). Nearly 45 percent of the women were in Southern California plants.

In the 4 plants employing the largest number of women - 1,320, 1,381, 2,917, and 4,679 - the percent of women employed of the total productive force, was 8, 11, 9, and 17 respectively. In two plants with nearly 3,500 employees in each on production, nearly one-fifth were women.

## Aircraft Engines -

Women are rapidly being taken on in the Airplane engine plants - in December 1941, only 4 plants employed women, a total of 600. In May, 11 plants employed nearly 3,700 women. The plants employing the largest number, 1,300, 12 percent of the total force, had only 136 in December and they comprised only 2 percent of all factory workers in the plant.

With the many large new plants being built and additions being added to those now operating, peak employment estimates have been raised to new highs - a total of 2 million in the aircraft industries by January, 1944. This means the large-scale use of women as all male workers experienced in the industry already have been absorbed. Hundreds of thousands of recruits must be trained. In a few months most of these will have to be women.

In all the areas where there is an aircraft labor shortage which includes Connecticut, Northern New Jersey, Philadelphia, Baltimore, the Great Lakes States, Buffalo, Southern California, and Seattle, female labor is still available.

New plants are generally planning to have women comprise at least half of the labor force.

Several aircraft centers have an excess male labor supply - Nashville, Kansas City area, St. Louis area, and the Dallas-T. Worth Area. Cincinnati, Toledo and Columbus, will apparently have adequate labor supply for the next few months.

## Small arms ammunition, bag loading and shell loading plants

Most of these plants are new, and production is just getting under way, others are in the process of construction, hence, the employment in the industry changes greatly from week to week, however, about 80,000 women are now employed and it is estimated that three times this number will be employed during the year.

The proportion of women runs much higher than in the aircraft industry due to the many unskilled jobs in the industry. Most of the plants expect to employ women on more than half of the jobs. Many of these plants are in rural farm areas where, surplus farm labor and women have been hired in large numbers.

Available labor supply in principal areas manufacturing ammunition: In Ohio and Connecticut there is a shortage of both male and female labor and workers will have to be brought in from the outside. In Colorado at present time there is a sufficient supply of laborbut when proposed new plants are beuilt there may be a shortage of male labor; however, up to now comparatively few women are employed.

In the Southern States there is no present labor shortage.

In Illinois and Indiana many firms are requesting that women be trained to meet the needs of the expanding war program.

Miss Pidgeon
Bul. 193 out of print

UNITED STATES DEPARTMENT OF LABOR
FRANCES PERKINS, SECRETARY

WOMEN'S BUREAU
MARY ANDERSON, DIRECTOR

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# Women's Work in the War

**Women Stand Ready to Fill War Jobs**
**Control of Industrial Home Work in War Time**
**Standards for Lighting War Production Plants**
**War Emergency Acts Affecting Women in Manufacturing**

BULLETIN No. 193 OF THE WOMEN'S BUREAU
JULY 1942

United States
Government Printing Office
Washington : 1942

For sale by the Superintendent of Documents, Washington, D. C. - - - - - - - - - - Price 00 cents

# Women Stand Ready To Fill War Jobs

Nearly 1½ million women were registered in the spring with employment offices all over the country, according to women advisers to the Social Security Board, who include members of the Women's Bureau staff. Since so many women already are waiting to be placed in war jobs, President Roosevelt has announced to the press that no general registration of women is needed at present. In areas with acute labor shortages, local registrations may be necessary. Connecticut, for example, has undertaken one. With a large male labor supply still available, women will be used to a great extent in essential civilian occupations where the numbers of men are declining sharply; but men as well as women will continue to be taken on in war production.

Though the need for women workers has increased markedly, the major call for them still is in the future. All placements of women made by the Employment Service over the entire country increased by 36 percent from the third quarter of 1940 to the third quarter of 1941, but those of men increased by 70 percent. The number of men applicants for work declined by 48 percent, that of women by only 13 percent. There still were 3½ million men seeking jobs in February 1942. In England, increased unemployment among women was an early effect of the war. It was about a year and a half before women's unemployment fell to normal, and during that period no registration of women was necessary.

## Civilian Industries Release Women

Besides the rolls of job seekers, a source supplying woman labor is in the various industries now curtailing their usual production because materials and plant capacity must be conserved for war uses. The more important women-employers among these are as follows:

Almost daily, new regulations add to this list. In many cases plants are converted to war manufacture and some employees stay on, but in many others there are considerable dislocations in employment. The more important woman-employers among them are as follows:

| *Industry* | *Number of women in census of 1939* |
|---|---|
| Full-fashioned silk hosiery | 59,500 |
| Auto bodies, parts, accessories | 40,900 |
| Radios, radio tubes, phonographs | 33,000 |
| Electrical equipment (except radio) | 18,200 |
| Silk throwing and spinning | 17,500 |
| Jewelry, jewelers' material, etc | 14,300 |
| Miscellaneous metal industries [1] | 11,600 |
| Clocks, watches, watch cases | 11,300 |
| Carpets, rugs, carpet yarns (wool) | 11,100 |
| Office and store machinery, n. e. c | 11,000 |
| Games and toys | 10,600 |
| Stamped and pressed metal products | 10,200 |
| Wire work, n. e. c | 8,800 |
| Silk fabrics (broad and narrow) | 7,300 |
| Needles, pins, slides, snaps, hooks, eyes | 6,400 |
| Advertising novelties | 5,700 |
| Refrigerators, air conditioning units | 4,200 |
| Silverware, plated ware | 3,700 |

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[1] Includes such industries as washing, vending, and sewing machines, auto stampings, beauty-shop equipment, and a number of others, none with over 3,500 women.

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## New Women Employees in War Plants

In the first quarter of this year a million women were reported in war employment. This number is said to be double that before the Pearl Harbor attack and is constantly increasing. The Department of Labor estimates that by the end of 1942 war industries will add to their forces at least 1½ million women but the number of men to be added will be much larger.

Less than a third of the expected hires in war plants in the first half of 1942 were to be in establishments that would take women in the types of jobs open, according to reports to the U. S. Employment Service from over 12,000 such plants. Largest numbers of anticipated openings were in making ammunition, aircraft, and electrical machinery. Occupations in which employment offices report that labor has been short but that women are now being taken on include work as detail assemblers, final assemblers, and machine-shop inspectors, as well as electrical assemblers, where women long have worked.

In such an important industrial State as New York, 1,400 employers reporting in April expected women to constitute only about one-fifth of the workers they would take on by the autumn of 1942. The male labor supply still was so large this spring that over 1,100 of these employers did not plan to include any women in their new labor forces before the fall.

## Women Release Men in Civilian Industry

Reports on labor-market developments indicate that women are relieving men in the essential nonwar activities such as trade, personal service, and other nonprocess jobs. Estimates predict an *increase* by the end of 1942 of more than half a million women but a *decrease* of 5½ million men in nonwar occupations. Projected through 1943, the estimates indicate an enormous decline in manpower in these jobs not directly war-connected, but since much of this work is necessary to maintain the Nation at war a great increase in womanpower is indicated.

## Many Agencies Seek Employment of Women

Persons and agencies that formerly paid but little attention to the asset the Nation has in its women workers now are turning their attention to types of jobs women have done or can do, to ways of organizing a plant to introduce women into new work, to conditions necessary to secure best output with women workers, to most effective methods of training women, and so forth. The variety of groups, both official and private, that are issuing material along these lines, which naturally must draw freely on the Women's Bureau fund of information, is indicated by the partial lists of publications on women in war production appearing in the WOMAN WORKER of the past year.

A number of agencies having to do with training and labor supply—such as the Apprenticeship Section in the Department of Labor, the Bureau of Employment Security, and others—have sent to their far-flung field offices special bulletins of the Women's Bureau showing the types of jobs women perform in war industries, and the standards that have proved effective in maintaining the health and industrial output of women workers.

## Jobs for Which Women Are Wanted

Specific jobs women are performing are mentioned in almost every issue of the WOMAN WORKER. Women have been reported in many places at work on assembly, inspection, and light machine work, grinding, burring, operating punch or drill presses, milling machines, small turret lathes, and so forth. There also are reports of women at work as overhaul and repair mechanics, assembling and disassembling machine guns for testing, and disassembling wrecked airplanes. The U. S. Employment Service has listed over 460 industrial jobs as suitable for women, though 40 percent of these would be suitable only with some breakdown of the job or rearrangement of the industrial process to enable women to perform them. At the time this was compiled, women worked in only a small proportion of these occupations. Not far from half the jobs listed as entirely suitable for women apparently would require only short training, that is, less than 6 months.

Reports of New York employers expecting to take on women by the fall of 1942 indicate an increase of women in airplane plants, operaing drilling machines, lathes, power sewing machines, and filing, riveting, and boring devices, as well as on the assembly line; in plants making lenses, bomb sights, precision instruments, and fire-control apparatus, working as assemblers, grinders, honers, drill-press operators, solderers, cementers, welders, engravers, polishers, testers, and inspectors. Other women will turn out radio tubes and parts, work at radio repair; or they will be employed, chiefly up-State, in the electrical-machinery industry as assemblers, winders, inspectors, power-press operators, and X-ray technicians. Some of these firms will use women as core makers and turret-lathe operators.

## Women in Training for War Industries

Reports are received constantly of women being trained in plants in all parts of the country. In some cases women are job instructors, and there are now a few instances of women training other women as job instructors. Women are in training in some plants as tool and gage makers, electric welders, computers, draftsmen, to mention but a efw of the more skilled jobs, and in some cases to set up as well as to operate milling and tool-making machinery. In the special Government training courses, latest figures available show women as about 4 percent of those being trained for war industries. In the preemployment and refresher courses over 6 percent of the trainees are women, in the supplementary courses a much smaller proportion. Recent data for New York alone show women in training as machine-shop and sheet-metal workers; in the schools, some were in radio communication, map preparation, mechanical drawing, cost accounting, electronics, and tool-drafting courses; a few were in chemistry, engineering, and metallurgy courses.

# Standards for Lighting War Production Plants

Women workers in particular respond to bright, cheerful surroundings, according to British experience with the problems in lighting war plants. Good factory lighting definitely increases output. For black-out plans and 24-hour operation, some British factories made the mistake of painting all windows and skylights black, with immediate ill effects on output and workers' health and morale.

Some of the finest processes in the war production program are performed by women's nimble fingers. This underlines the particular necessity to women workers of excellent lighting in war factories, now especially important because of pressure for added output, increased use of night shifts, and special black-out problems. Standards of the Illuminating Engineering Society published in detail by the Women's Bureau in 1932[1] have been revised recently as the American Recommended Practice of Industrial Lighting of the Illuminating Engineering Society, approved March 17, 1942, by the American Standards Association.

Though installations should be made by a competent illuminating engineer, production officers should be familiar with the factors involved. In addition to lessening eyestrain, good lighting contributes to greater accuracy of workmanship, resulting in improved quality of production, less spoilage, increased output, better use of floor space, easier maintenance of a clean and neat workroom, better supervision, improved morale, and greater safety.

Factors necessary to consider are quality and quantity. Quality includes absence of glare as well as diffusion, direction, and distribution of light. Glare may be defined as any brightness causing discomfort, annoyance, interference with vision, or eye fatigue, and it may injure the eye and disturb the nervous system.

Quantity of light is measured in units of foot-candles, an arbitrary unit of measurement. Ease, accuracy, and speed of output are increased on a task, sometimes to a remarkable extent, by increasing the amount of light, with due consideration of distribution and contrast. The acceptable level varies with the requirements of each task. For types of work where women are now being employed extensively, the *minimum* standards for levels of illumination as recommended by the Illuminating Engineering Society are listed below. In the Recommended Practice of Industrial Lighting, already referred to, is a much more complete table.

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[1] U. S. Department of Labor. Women's Bureau Bul. 94. State Requirements for Industrial Lighting. 1932.

| *Types of work* | *Minimum illumination (Foot-candles measured at work, 30 inches above floor)* |
|---|---|
| Assembly: | |
| Rough | 10 |
| Medium | 20 |
| Fine | B |
| Extra fine | A |
| Cloth products: | |
| Cutting, inspecting, sewing— | |
| Light goods | 10 |
| Dark goods | A |
| Hangars, aeroplane: | |
| Repair department | 50 |
| Inspection: | |
| Fine | B |
| Extra fine | A |
| Machine shops: | |
| Fine bench and machine work, fine automatic machines, medium grinding, fine buffing and polishing | B |
| Offices: | |
| Stenographic work | 50 |
| Bookkeeping, typing, and accounting | 50 |
| Sheet-metal works: | |
| Punches, presses, shears, stamps, spinning, medium bench work | 20C |
| Welding | 30 |

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A = These tasks involve (*a*) discrimination of extremely fine detail work under conditions of (*b*) extremely poor contrast, (*c*) for long periods of time. Illumination levels above 100 foot-candles are recommended.

B = These tasks involve (*a*) discrimination of fine detail under conditions of (*b*) a fair degree of contrast, (*c*) for long periods of time. Illumination levels from 50 to 100 foot-candles are required.

C = These tasks require the discrimination of fine detail by utilizing (*a*) the reflected image of a luminous area or (*b*) the transmitted light from a luminous area.

## Control of Industrial Home Work in War Time

A tendency toward increased industrial home work in making Army and Navy uniforms was the experience in early days of World War I. Later, both the Quartermaster General and the Chief of Ordnance of the Army issued orders that "no work should be given out to be done in rooms used for living purposes." Present indications are that cooperation of management and clothing unions, together with style changes and other factors, now have sharply curtailed this system in the clothing industries.

### Fair Labor Standards Acts Cuts Home Work in Knitwear

A recent Wage-Hour Division order practically bans most industrial home work on knitted outerwear after the first of next December. Certificates to do home work may be obtained only for persons who did such work before August 20, 1941, or who are to do it under supervision of a State vocational rehabilitation agency or a sheltered workshop. In either case, home work is allowed only for persons unable to adjust to factory work because of age or physical or mental disability, or unable to leave home because caring for an invalid.

### Jewelry Home Work Also Rigidly Cut

The order for knitted outerwear is the second to virtually do away with home work in an industry in which it has been general. The first was in jewelry making, and was effective November 3, 1941, under much the same terms as the more recent knitwear order. (See WOMAN WORKER, November 1941.) The orders are based on authority under the Act to "prevent the circumvention or evasion" and "safeguard the minimum-wage rates established." Hearings have been held also on home work in the women's and children's apparel, glove, and button and buckle industries.

### Home Work on Army and Navy Clothing

In World War I, Navy clothing made at Charleston, S. C., was done entirely in factory, but in Brooklyn, N. Y., home workers sewed stars and tape on sailor collars, made undress jumpers, blue serge overshirts, and white cotton jumpers for the Navy. They worked chiefly in their dining rooms, kitchens, or living rooms, sometimes in bedrooms, and in a few cases separate sewing rooms were used.

Though the Army no longer gave out work to New York tenement dwellers, home workers did about a third of the sewing of Army shirts made at one of the Philadelphia stations and in Indiana near Louisville, Ky. Efforts were made to fumigate these garments, but the system was not effective in destroying all germs. Moreover, the capacity of fumigating facilities at Louisville was 14,000 shirts, but 17,000 to 20,000 a day were received. Some of these were made in shanties with no sanitary facilities, built on low ground covered with water at flood seasons. Wastefulness of the home-work system was emphasized by the fact that it required 21,000 workers to do at home what 3,000 factory workers could do, and by the congestion of transportation due to shipping materials and completed garments to and from the substations and to the workers carrying their bundles back and forth from depots to homes. Reports for one Indiana branch showed that a fourth of the home workers lived at a distance of 50 miles or more.

## Recent Progress in Home-Work Control

The past few years have seen great progress in defining and controlling industrial home work. The problem was widely studied and some control instituted under the N. R. A. in 1933–35. The Fair Labor Standards Act requires payment of the same rates to home workers as to factory workers. Most home workers are women. Investigation showed that employers of home workers accounting for one-third of such workers actually registered in five States held active State home-work permits but had failed to obtain the handbooks required by the Wage-Hour Division.

Beginning in March 1939 the Wage-Hour Administrator required employers of home workers to keep special records for a 6-month period to determine whether they were complying with the statute. In November 1939 a court decree obliged back wages to be paid by 11 of the country's largest manufacturers and sellers of knitted garments, perhaps the most important of all home-work industries. A permanent injunction restrains the companies from further violation, either directly or by subterfuge. (See WOMAN WORKER, March and July 1939, January and March 1940, January 1941.)

The Wage-Hour Division reported late in 1940 that, though but slightly more than 1 percent of all cases litigated under the F. L. S. A. concerned home workers, almost 25 percent of the back wages ordered went to home workers, who constituted 13 percent of all receiving such wages. The average sum restored to home workers was almost twice the average for all workers, a rough index of the extent to which home workers, in contrast to other employees, were exploited.

## Situation in the Apparel Industry

The Wage-Hour Division made a comprehensive survey of home work on women's and children's apparel and presented the facts at hearings in the spring of 1942. The study includes interviews with home workers and with employers, reports on handbooks issued, special questionnaires to employers. It gives as a very rough estimate a maximum of some 9,600 home workers in the industry. The report shows that of some 3,300 home workers in 220 firms inspected in the spring of 1941, over three-fourths were in three States as follows: New York, 39 percent; Pennsylvania, 20 percent; Texas, 18 percent. Employment in the same year on infants' and children's wear showed a different distribution: Pennsylvania, 40 percent; Texas, 38; New York, 3.

The setting of rates for home workers was found to be haphazard. If work was also done in the factory, home workers were paid the same rate as plant workers. If not, a sample maker in the factory or a few home workers were timed, or the statement of the home worker was accepted. Some employers divided the prevailing minimum rate by a rough estimate of the number of units that might be done in an hour. According to information from some 400 home workers, nearly half the work was done by hand, nearly one-third wholly by machine, the remainder a combination of the two. In general, hand work as done at home was not done in the factory, but home machine work was. Most firms had a factory force far in excess of those working at home, but a few had no factory force. Some large branches of the industry were highly seasonal, especially blouses, dresses, handmade underwear, and some types of neckwear. But seasonal variation of the home-worker force was even greater than that of the factory, since so often home workers were used only to supplement the factory force at the peak of the season.

### Home Work on Gloves

Under the minimum-wage provisions of the Fair Labor Standards Act, glove manufacturers representing 90 percent of the production in the industry agreed with the Government to pay back wages, affecting home workers chiefly in New York, Wisconsin, Illinois, and 20,000 in Puerto Rico. The records of the Wage-Hour Division indicate that at some time in about two years prior to June 30, 1941, handbooks were distributed to more than 8,200 home workers, 97 percent of them in New York State. Of more than 1,000 home workers reported by the Bureau of Labor Statistics in 1941, only 35 were working outside New York.

This is one of four industries for which New York State has issued special orders sharply curtailing home work. (See WOMAN WORKER, September 1941.) Hearings have been held under the Wage-Hour Act that may extend similar restrictions to this industry in other States, as has been done for apparel and knitwear, since already New York glove manufacturers have made inquiries about the home-work regulations in New Jersey, New Hampshire, Vermont, and Pennsylvania with the view to increasing the amount of home work going to those States.

# War Emergency Acts Affecting Women in Manufacturing

Only 10 States have found necessary any legal changes or new laws that affect women's employment in order to meet emergency needs for industrial production.[1] On the whole the work standards required by law are such as experience has proved will best aid maximum output as well as the workers' health. Of the few legal adjustments that have been made as to labor standards, a number are relatively minor.

In 17 States, basic statutes covering women's work in manufacturing contain elastic provisions applying to work hours, night work, or allied subjects.[2] Others have issued emergency orders, or have granted permits where war work is involved. For the most part new laws, orders, or amendments apply specifically to war emergency.

All the major industrial States employing large numbers of women in manufacturing have made ample provision for emergency. In all, 33 States have established exemption procedures and 4 others are prepared to handle exemptions. Six either have no labor laws applying to women or their hour laws permit such a long maximum that no exemption would be needed.[3] Five other States have established no procedure.[4]

The list following shows the States that since December 7, 1941, have passed laws affecting labor standards for women. Further details of such action are shown in the Woman Worker for May.

General emergency acts—Maine, Massachusetts, and Rhode Island.
Weekly work hours—New York and Virginia.
Rest or lunch periods—Maine, New Jersey, and New York.
Night work—New Jersey and New York.
Sunday or 7th-day work—New York and South Carolina.
Holidays—Kentucky.
Overtime pay—New York.

## LABOR LAWS FOR WOMEN IN 1942

The following laws have been approved in 1942, *in addition to* the war emergency acts affecting women's labor laws in Maine, Massachusetts, New York, and Virginia reported in the Woman Worker for May:

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[1] Changes in labor laws in Kentucky, Maine, New Jersey, New York, and South Carolina; war emergency acts that apply specifically (New York and Virginia) or that can be applied (Maine, Massachusetts, and Rhode Island) to labor provisions; and two additional States that passed laws in 1941 but before Dec. 7—Connecticut, an hour law; Nebraska, a night-work law; both described in the May Woman Worker.

[2] Includes night-work-prohibition laws or orders in 4 States, 1-day's-rest-in-7 laws in 10 States, and 48orlessmaximumhour laws in 10 States; 22 States a fix maximum over 48 hours a week in some manufacturing plants and 8 States fix no weekly hour limit.

[3] Alabama, Florida, Georgia, Kentucky, Mississippi, and West Virginia.

[4] Arizona, Louisiana, Maryland, Missouri, and Tennessee.

## War Emergency Powers

**Rhode Island**

Act effective until March 31, 1943, giving power to the Governor to cooperate with Federal authorities and with Governors of other States in matters pertaining to the common defense of the State and the Nation. (Approved and effective April 10.)

## Hours of Work

**Kentucky**

Suspension for the duration of the war of the observance of all legal holidays but Independence Day, Labor Day, and Christmas. (Approved March 12.)

**Maine**

Amendment to law for women requiring rest period of 1 hour after 6 hours of continuous work permits reduction to 30-minute rest period after 6½ consecutive hours in workshops, factories, manufacturing or mechanical establishments. (Approved January 24.)

**New Jersey**

For duration of the war the Governor is given power to suspend the law requiring a 30-minute meal period after 6 hours of work; but not over 8 hours are allowed without a meal period. (Approved and effective March 31.)

**New York**

Law of 1941 permitting employment of bindery workers at night and requiring overtime pay for hours over 40 to 48 was amended by striking out the overtime provision. (Approved and effective May 10.)

**South Carolina**

Amendments authorize the Governor to permit Sunday work in factories, stores, and machine shops during the National emergency in production of goods under Government contract. Persons conscientiously opposed to Sunday work shall be exempted without prejudice. (Approved and effective March 19.)

## Industrial Home Work

**New York**

Two amendments were passed—(1) requiring that home work must be distributed direct to workers by the employer and not through contractors or distributors, and (2) declaring that home workers are employees of their employers and not independent contractors. (Approved and effective May 5.)

## Minimum Wage

**New Jersey**

Amendment makes technical correction in the title of the minimum-wage law. (Approved and effective February 2.)

**New York**

Minimum-wage law has been amended to provide that appeals from determinations of board of standards and appeals must be taken direct to the appellate division of supreme court, third judicial department, on any question of law involved in any decision or order reviewed. (Approved and effective May 6.)

U. S. GOVERNMENT PRINTING OFFICE: 1942

WOMEN'S BUREAU, U. S. DEPARTMENT OF LABOR, WASHINGTON

# The Work That Women Do[1]

The present war period, like that of World War I, shows sharp increases in the employment of women in war industries. This changed employment makes it important to have basic normal figures to which the new situations may be related. Thus it is fortunate that complete data on the country's population were taken in 1940. These are now released for major occupation groups. The summary following shows numbers of persons 14 years of age or more who were employed. This does not include all in the labor force, such as those seeking work and those in public emergency work, that is, the W. P. A., N. Y. A., and C. C. C. The entire labor force totaled about 12¾ million women and 40 million men.

| *Occupation group* | *Number in 1940* Women (in millions) | Men |
|---|---|---|
| All groups | 11. 14 | 34. 03 |
| Service groups: | | |
| Domestic | 1. 97 | . 14 |
| Other | 1. 26 | 2. 20 |
| Clerical, sales, and kindred | 3. 16 | 4. 36 |
| Operatives and kindred | 2. 05 | 6. 21 |
| Professional and allied: | | |
| Professional | 1. 37 | 1. 51 |
| Semiprofessional | . 10 | . 36 |
| Farm workers: | | |
| Unpaid family workers | . 22 | . 94 |
| Wage workers, foremen | . 10 | 1. 83 |
| Farmers, farm managers | . 15 | 4. 99 |
| Proprietors, managers, officials (except farm) | . 42 | 3. 33 |
| Craftsmen, foremen and kindred | . 11 | 4. 95 |
| Laborers (except farm) | . 10 | 2. 97 |
| Occupation not reported | . 13 | . 24 |

**Women in Labor Force in Each Group.**

Special aptitudes of women for certain kinds of work are emphasized by the marked differences from group to group in the proportions of women among their workers. For example, women constitute a major proportion in domestic work, large proportions in professional and clerical, but a very small part of general labor and of craftsmen and foremen. The following summary shows the proportions of women in the various groups.

| *Occupation group* | *Percent of women in total, 1940* |
|---|---|
| All groups | 24. 7 |
| Service: | |
| Domestic | 93. 3 |
| Other | 36. 5 |
| Professional and allied: | |
| Professional | 47. 6 |
| Semiprofessional | 21. 4 |
| Clerical, sales, and kindred | 42. 0 |
| Operatives and kindred | 24. 8 |
| Proprietors, managers, officials (except farm) | 11. 3 |
| Farm workers: | |
| Unpaid family workers | 19. 2 |
| Wage workers, foremen | 5. 0 |
| Farmers, farm managers | 3. 0 |
| Laborers (except farm) | 3. 2 |
| Craftsmen, foremen and kindred | 2. 1 |

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[1] For earlier articles on census data see THE WOMAN WORKER for March, May, and November, 1941, and January and May, 1942.

## Women's Work Differs from Men's.

As would be expected, there are marked differences in the distribution of men and women. Of women, not far from half are in the two groups Clerical and sales and Operatives; of men, not far from half are in the three groups Operatives, Farmers and farm managers, and Craftsmen and foremen. About 18 percent of both sexes are classed as operatives.

Three groups in particular occupied much larger proportions of the women than of the men: Clerical and sales, 28 percent of the women, 13 percent of the men; combined service groups, 29 percent of the women, less than 7 percent of the men; professional, 12 percent of the women, a little over 4 percent of the men.

Four groups (or combinations) of considerable size for men occupied relatively small proportions of women: Farm work, including unpaid family workers, nearly 23 percent of the men, just over 4 percent of the women; craftsmen and foremen, over 14 percent of the men, only 1 percent of the women; proprietors, managers, and officials, nearly 10 percent of the men, less than 4 percent of the women; laborers (except farm), nearly 9 percent of the men, less than 1 percent of the women.

## Women's Loss or Gain in Number from 1930.

The 1930 census reported 10¾ million women employed or seeking work, not including new workers who never had a job. In 1940 this number had increased by about 1¾ millions, including those in the Government emergency agencies, that is, C. C. C., W. P. A., N. Y. A. New seekers for work (never employed) brought the total to more than 12¾ millions.

The major groups in 1940 differ somewhat from 1930, so exact comparisons are not possible. Increases in the numbers of women appear in the clerical and sales group and in the combined service classes, the greater part of the latter probably in service occupations other than domestic. There is little doubt that the numbers of women in the farmer and farm-labor groups have declined markedly. Differences in classification may account for much of the apparent decline in numbers of women in the general labor and professional groups and in the operatives as compared to the 1930 semiskilled. Similar causes may be largely responsible for the apparent increases among women as proprietors, managers, and officials, and the craftsman occupations when compared with the skilled labor of 1930.

| *Occupation group* | *Women employed in 1930* | |
|---|---|---|
| | *Number (in millions)* | *Proportion of total (percent)* |
| All groups | 10. 75 | 22. 0 |
| Clerks and kindred workers [1] | 3. 07 | 38. 6 |
| Semiskilled workers | 2. 53 | 31. 7 |
| Servant classes | 2. 31 | 69. 3 |
| Professional persons [2] | 1. 45 | 49. 2 |
| Farm: Labor (wage and unpaid family workers) | . 65 | 14. 7 |
| Farmers (owners and tenants) | . 26 | 4. 4 |
| Proprietors, managers, officials (except farm) | . 24 | 6. 7 |
| Laborers (except farm) | . 16 | 2. 5 |
| Skilled workers, foremen | . 08 | 1. 3 |

[1] Includes saleswomen, store clerks, and telephone operators.
[2] Includes some groups allocated to semiprofessional in 1940.

U. S. GOVERNMENT PRINTING OFFICE: 1942

For sale by the Superintendent of Documents, Washington, D. C. - - - - - - - Price 5 cents

advance Copy rec'd Oct 1.
1942

UNITED STATES DEPARTMENT OF LABOR
FRANCES PERKINS, Secretary
WOMEN'S BUREAU
MARY ANDERSON, Director

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# Your Questions As To Women in War Industries

**Types of Jobs**
**Replacement of Men by Women**
**Employment and Unemployment**
**Attitudes of Employers**
**Operation of Labor Laws**
**Wages of Men and Women**
**Training**
**British Experience**

BULLETIN No. 194 OF THE WOMEN'S BUREAU

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1942

For sale by the Superintendent of Documents, Washington, D. C. . . . . . . . . . . . . . Price 5 cents

# Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,
WOMEN'S BUREAU,
*Washington, August 12, 1942.*

MADAM: I have the honor to transmit a report on the employment of women in war industries. In the coming months the need for women workers will exceed enormously the highest peacetime employment of women this country has ever seen. This report is made in response to an insistent and widespread demand for current information on many phases of this subject, and is issued as the ninth in the series of Women's Bureau special bulletins designed to meet wartime needs. It was prepared by Mary Elizabeth Pidgeon, chief of this Bureau's Research Division.

Respectfully submitted.

MARY ANDERSON, *Director.*

Hon. FRANCES PERKINS,
*Secretary of Labor.*

# Your Questions As To Women in War Industries

## What Kinds of Work Are Women Doing in War Plants?

Field investigators of the Women's Bureau of the United States Department of Labor are finding that women workers in war factories now operate some of the heavier machine tools formerly new to them, such as millers, lathes, automatic screw machines, grinders, profilers, and precision tappers. Where conditions warrant, women are setting up these machine tools and working to great precision. Thousands of other women are skillfully doing work requiring a delicate touch, manipulative dexterity of a high degree, as well as extreme accuracy in measurement. In addition, large numbers perform repetitive processes.

Women are at work in Government arsenals turning out small-arms ammunition, in such processes as trimming bullet jacket and case, annealing case parts, and assembling bullet and cartridge. They are doing shell and bag loading in artillery-ammunition plants. They are making gas masks, balloons, rubber life-rafts, and parachutes. They are making blankets, uniforms, tenting fabrics, aircraft instruments, wire for the Signal Corps. They are working as overhaul and repair mechanics, assembling and disassembling machine guns for testing, and disassembling wrecked airplanes. A major airfield is employing them on maintenance work, cleaning spark plugs and painting luminous dials.

In airplane plants women operate hand drills and hand screw machines, turret lathes, power sewing machines, and light rivet guns; at the drill presses they change and sharpen their own drills; they install fittings and equipment in fuselages on the assembly line; they splice and prepare assemblies of light cable, assemble and prepare electrical systems, and install the radio in the plane; in the woodworking department they operate band saws, sanding belts, and do nailing and gluing of small wooden parts; they do wiring, light grinding, profiling, sheet-metal cutting, spot and arc welding, spray painting, and all types of bench work. Several large aircraft companies have women on production jobs throughout the plant.

In plants making lenses, bomb sights, precision instruments, and fire-control instruments, women work as assemblers, grinders, honers, operators of drill and punch presses, solderers, cementers, welders, engravers, polishers, testers, and inspectors. In the making of electrical machinery women are assemblers, winders, inspectors, power-press operators, and X-ray technicians. The Women's Bureau has many further details as to industrial jobs women are doing, and is continually making recommendations in various industries as to particular types of work suitable for women.

Women are performing many technical processes that require considerable training. Some ferry planes from plant to training field;

at Army training schools they are instructors in flying and ground mechanics. By the end of 1941 there were 92 women journeymen instructors, though women are no longer admitted to Government courses for pilot training. Women are medical-social and recreational workers at United States military hospitals here and with Army units abroad, sailing under sealed orders. A few women are in unique positions, such as testing durability of aircraft paints, testing alloys, directing a corps of women helping to build ship and plane instruments, specializing in X-ray of metals, managing a company making cable grips for battleships, electrical engineering in aircraft.

### Are Women Replacing Men?

In the war industries expansion has permitted women to work side by side with men on the same jobs without taking over the jobs held by men. This is true today, though as more and more men go into the specific war services actual substitution of women on men's jobs in war industries is likely to increase. Women have replaced men primarily in civilian services for which men are not deferred from the Army, often in types of work women long have done, though from day to day some new type of work is engaging women.

In large and small places Women's Bureau agents find women at work as elevator operators in hotels, stores, and office buildings; as telegraph messengers and in other messenger services; as clerks, cashiers, soda-fountain girls, and pharmacists in drug stores. Women are serving as taxi drivers and filling-station attendants. They are being hired as men are drafted from shoe, electrical-supply, and food plants. They are replacing men as finger-print classifiers. A large industrial company began to take on a few women technicians in their laboratories, a type of work women formerly have done elsewhere. Women are serving at airports as reservation supervisors, dietitians, passenger-service superintendents, and dispatch clerks. Women are reported as machine-shop instructors, as mechanics, and mechanics' helpers. They service typewriters, act as bank tellers and assistants, and are reported at work in brokerage offices, and as stock-exchange floor employees. They are serving as guards in industrial plants, with police power. At least one of our largest cities has supplemented the traffic police force with women, who direct traffic at school and church crossings and at municipal parking lots, in the latter locations also guarding the parked cars. Another city has a woman managing a municipal airport.

The United States Employment Service has listed over 460 industrial jobs as suitable for women, though 40 percent of these would require some rearrangement of the processes if women are to perform them. At the time this list was compiled women worked in only a small proportion of these occupations.

### How Many Women Are in War Industries?

The number of women actually on production lines in war factories is changing continually. If the total could be shown for today it would be different by tomorrow. Over-all figures are largely estimates; sometimes these estimates include the clerical force in the plants and the service employees, as well as production workers.

Many factors enter into the determination of the demand for women workers. The estimated range of from 6 to 10 million men to be included in the armed forces by the end of 1943, the extent to which ships are available to carry finished materials abroad, the distribution of raw material, the changes in the type of equipment made, the shifts in the plans for the use of the armed forces—these and many other factors make careful estimates of actual woman labor for periods of more than a few months obviously unsound.

However, on the basis of the increase of women workers during the first 6 months of 1942, nearly 2 million more will be added during the year, most of whom will be new workers, reaching a peak of over 15 million—far above the highest peacetime employment of women this country has ever known. It is estimated that about 3½ million of the employed women, as compared to 1½ million in the spring, will be on war work.

Important samples show how rapidly women's numbers are increasing in war factories. One good instance is the airplane assembly industry, because the plants are fully engaged in making war products and many of them—at least 40 percent—opened since September 1939. In the principal aircraft assembly plants that were in operation in October 1941 there were about 2,000 women on the production lines; but June 1942 saw about 17 times as many women in such work, some 34,000. This represents the employment of women in new plants as well as the increase in plants that were operating in October. The increase from April to June alone was about 40 percent.

Similarly, in aircraft-engine plants women are fast taking their places. Last December only 4 plants employed women on production and they totaled 600. By June 1942, women were at work in 11 such plants, and the number had increased to more than eight-fold, or by about 4,000.

## Will There Be More Opportunities for Women?

There is little doubt that the need for new women workers will continue to increase enormously. However, it is likely that this need will concentrate more especially in some States than in others, since industrial concentration always tends to be spotty in spite of the fact that efforts are made toward placing some war plants in noncongested areas. For example, nearly two-thirds of the new need for workers in late 1941 was in only five of the more important industrial States. Nearly 45 percent of the women in airplane assembly plants in June 1942 were in California.

Experience of the first World War gives some indication of how large a part women are to play. In the iron and steel industry women constituted less than 7 percent of the wage earners before World War I, 16 percent during the war, in identical firms; in other metals the proportion of women was 15 percent before, 21 percent during the war; in chemicals 3½ percent before, 13 percent during the war. In transportation employment alone, over 100,000 women were engaged in that war in such jobs as switch-tenders, car tracers, dispatchers, telegraphers, ticket agents, and streetcar conductors. There shortly will be need for many women in this industry, according to the Director of Defense Transportation.

Current Government announcements call for women workers in an expanding field. Insistent demands are far above the supply of typists, stenographers, and nurses. Some professional, scientific, and administrative work also is now open to women. On the basis of estimates running well into the immediate future, the Civil Service Commission announced last spring that probably some 5,000 young women would be needed in such fields. This would include economists, research chemists, medical workers, and in some cases personnel and administrative employees. For the most part the women's jobs are likely to be in the junior grades; for example, civil service examinations for junior chemist and technical and scientific aide, formerly almost closed to women, now are open exclusively to women.

Reports in the late spring from more than 100 colleges and universities in all parts of the country indicate that women are much in demand and are being accepted for technical and management work formerly the exclusive province of men.

## Are There Still Women Unemployed?

With reports on the one hand of enormous increases in employment of women, on the other hand many women have lost their jobs through industrial priorities or transfer of plants to war work and are not yet placed in new jobs.[1] Late in the spring of 1942, a million women were reported unemployed by the Federal Works Agency.

For example, in the full-fashioned hosiery industry, centering to a large extent in Pennsylvania and North Carolina, a major proportion of the 59,500 women workers were affected by the silk shortage. Through vigorous combined efforts of Government, labor, and industry to place these workers, some found employment in parachute or munitions making but this could not take care of all. Many of the 17,500 women who were in silk throwing and spinning mills and 7,000 making silk fabrics also lost their jobs.

The jewelry industry employed over 14,000 women before its metal materials were curtailed. Plants shifted to producing cap and collar insignia, cases for instruments, and small parts for bullets, but by late spring in one of the chief jewelry States a major proportion of the displaced women had not been reemployed and probably could find jobs only with great difficulty.

Shortage of steel needles, as well as of materials, affected the sewing trades early this year, and by the summer further stringencies were estimated to have thrown out 150,000 workers on women's clothing. Three-fourths of the workers in this industry are women. Figures showing the situation as to the usual late summer and early fall upturn are not yet available, but the vigorous efforts to cut use of materials and to cut purchasing power would indicate that the upturn this year would be definitely below normal. Another 30,000 workers making men's clothing were unemployed in the New York area alone.

Another industry whose employees have similar unemployment problems is the making of games and toys, which formerly employed over 10,500 women. Carpet and rug making, with its 9,500 women workers, has been hard hit. It is an industry not easy to convert to a war basis, and the skills of its employees could be transferred to other work only with difficulty. The leather-glove industry, employing over 7,000 women, expects sharp curtailment when its stocks of leather are exhausted this fall.

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[1] In Great Britain in the early months of the war, when the production of consumer goods was being curtailed and converted to war manufacturing, unemployment increased markedly among women.

## What Policies Are Best for Fitting Women and Jobs?

The Women's Bureau has developed the following policy as to the order in which women workers should be employed:

First, women with factory experience who have lost their employment because of priorities in materials and plant adjustments to war production.

Second, other unemployed women who are registered with the Employment Service seeking work.

Next, if necessary, the more than 800,000 girls coming from high schools and colleges.

Last, women caring for their homes, particularly those with small children, should not be asked to go into factories and workshops until it is absolutely necessary. They can be much more helpful to the Nation by staying at home and taking care of the children, though it is recognized that in some cases these women find it necessary to work.[2]

The more than 1,500 local offices of the United States Employment Service have the responsibility for placing workers, and women seeking employment should register with them. The United States Civil Service Commission places Government arsenal and depot workers, and the War Manpower Commission has charge of the National Roster of Scientific and Specialized Personnel obtained through the Civil Service Commission.

Some of the women anxious to serve have thought of a general registration of women as a concrete way to express this desire. But women advisers to the Social Security Board, including members of the Women's Bureau staff, have opposed a Nation-wide registration of women while so many women still are unemployed or are being thrown out of jobs by transfer of industry to a war basis. Employment agencies should first make more concerted efforts to place those women who are out of jobs. Employers and training agencies should give them opportunity for work and training. In some particular localities where labor shortages are acute, it may be of advantage to have a local registration of women available for specific needs, and the War Manpower Commission is now formulating plans for national registration of women when and if it becomes necessary.

Early appeals for women proved disappointing in England, since at first many women who were eager to serve found no jobs available; later, when many more women were needed, it was more difficult to get them to respond than if requests had been delayed until the actual need arose. Not for a *year and a half* after England entered the war did the Government institute general registration of women.

## Are Employers Eager to Place Women in New Jobs?

Employers have been eagerly seeking information from the Women's Bureau as to the types of jobs women can do, the conditions that should be provided for their effective work, the laws that must be observed where women are employed, and so forth. This includes, for example, makers of aircraft parts, new ordnance plants, and other cases where large numbers of women are being placed on new jobs. Other employers, unfamiliar with women's capabilities, have been trying out women in their plants or introducing them into new departments. Employers' organizations have issued advice as to certain of the fundamentals that must be considered in securing maximum production with women workers. For example, the National Industrial Conference Board quotes extensively from the recommendations of the Women's Bureau as to proper health standards for women's best work, processes suited to performance by them, and allied subjects.

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[2] Stated policy of Manpower Commission is to call mothers of small children last.

This development of particular interest in placing women in new jobs has been a recent one, greatly accelerated since Pearl Harbor and increasing further as new registrations take great numbers of men for the Army away from the industrial labor supply. When Women's Bureau agents visited major aircraft plants in the spring of 1941, a decided preference for men workers was shown. Objections were made to trying out women in new departments, based sometimes on a fear of creating added supervision problems, of having to provide more service facilities, or in general of having to employ women side by side with men. However, when return visits were made in the late fall, women were being put on new work, even by some of the employers who formerly were most hostile to them; and there was in general an attitude of readiness and even eagerness to accept women.

These women workers were justifying the experiment, and the managements were finding that men and women could work side by side effectively. The skill and ease with which women adjusted themselves to drill operation, for example, often were commented on by personnel administrators or supervisors. Foremen would point with pride to successes of individual women: To a young girl who as a spot welder had more than doubled the previous records of boys, or a woman operating a sensitive drill who maintained daily output double that of the man for whom she substituted. Women often were more careful than men of tools and materials, and thus caused less damage and waste. There were instances, too, of notable decreases in both accidents and labor turn-over after introduction of women. (England also has had the experience of decreased accidents with woman employment.) With equal training and experience, women could be transferred to other jobs as successfully as men, even on difficult processes.

On the other hand, there still are employers in all parts of the country who frankly say they will not hire women so long as they can get men. In New York, for example, of 1,400 employers reporting in April, nearly four-fifths did not plan to include any women in their new labor force before the fall of 1942—apparently not until men were no longer available. In the spring also, a United States Employment Service study indicated that employers were opening new jobs to women very slowly in view of the extent of labor demand and the stringency in skilled and semiskilled occupations.

## Do Labor Laws Handicap Introduction of Women Into New Work?

On the whole, the work standards required by law are such as experience has proved will best aid maximum output as well as workers' health. The slow process of passing laws ordinarily puts them on statute books only after the principles enacted have been thoroughly tried out.

A policy as to labor standards was announced early in 1942 by a conference between officials of the Navy, War, and Labor Departments, and labor commissioners of 15 important industrial States, who declared that sound labor standards "are the mechanisms of efficiency" and "over any protracted period are essential to the maintenance of maximum production." After a summary statement of the work standards found effective, the declaration continued:

> . . . These standards must be relaxed if and when necessary for total war production . . . At the same time there must be vigilance to prevent any unnecessary abrogation or suspension of labor laws and regulations.

Only 10 States have found need to pass any new laws or to make legal changes affecting women's employment to meet the present war-production emergencies, and a number of these made only rather minor changes. In 17 States, basic laws covering women's work in manufacturing contain elastic provisions allowing for adjustments to meet emergencies; in other States emergency orders or permits have been issued.

In all, 33 States have established exemption procedures, and all the major industrial States employing large numbers of women have made ample provision for emergencies. (For further details see the Woman Worker for May and Women's Bureau Bul. 193—Women's Work in the War.)

## Are Women Paid the Same Wages as Men?

In many cases women are not paid so much on a job as men they replace or work beside. In fact, a recent Women's Bureau visit to a large factory found women instructors receiving 60 cents an hour, though the men they instruct are paid 70 cents. In the past the job often was somewhat changed with the introduction of women; but today, in this country as well as in England, women frequently set up and service their own machines, and in many cases these operations are a part of women's plant instruction.

In nearly all the plants making small-arms and artillery ammunition that have been visited by the Women's Bureau, entrance rates for men were found to be at least 10 cents higher than those for women, though many of the jobs done were similar for the two sexes. On the other hand, in the aircraft industry, which is newly putting on women, and in which many plants have opened only recently, entrance rates are the same for men and women in the great majority of cases, and the rate of increase in the first months is the same for both. The job and the work done, rather than the sex of the worker, is the standard for rate fixing as advocated by the War Production Board, the Army, the Navy, and the Department of Labor.

When women are put on work that men have been doing and are paid a lower entrance rate, this amounts to a wage cut. Nor can a decline in output be used as an excuse for this cut in the rate, as women's output compares well with that of men and in some cases exceeds it. This is found now in aircraft, for example, and it was the case in some of the metal and electrical plants in World War I.

In another industry equally new at least so far as woman-employment is concerned, gun manufacture, a lower beginning rate is paid to women than to men, and a sex differential is maintained even for experienced workers. The Women's Bureau has found beginning rates in various plants ranging from 60 to 74.6 cents an hour for men, but only from 43.4 to 45 cents for women. On each of five types of machines on which experienced women and men worked, the *lowest* rate for men always was at least 10 cents *above* the women's highest. In the same industry this was true also for several types of inspection. That this practice still exists in an emergency when many new workers are needed emphasizes the fact that the protection to wage standards afforded by union action and by minimum-wage laws is vitally necessary—

1. To assure an adequate minimum to women on war jobs.
2. To protect the wage standards of men at a time when many women are being employed, so that women will not be used as a labor force to undercut men.
3. To maintain a bottom for wages that can extend into the postwar period, as one of the factors to assist in forestalling depression at that time.

## To What Extent Are Women Being Trained for War Industry?

Training for war industry has been of at least three types: (1) In special defense training classes organized through the school systems at the expense of the Federal Government, (2) in private schools and colleges, and (3) in industrial plants. The National Youth Administration also has afforded training by experience on certain of its projects, and women with such experience have been found effective in war factories.

Training opportunities for women have increased markedly since the Pearl Harbor attack. Most effective is the actual in-plant training now being given to uncounted thousands of women in war factories all over the country. For example, a large aircraft plant in Washington State recently called for 500 women workers to be trained in subassembly of parts for planes. Women are being trained for parachute repair in Salt Lake City, for radio-telephone operating in broadcast stations in New Jersey. In-plant training systems have been installed and aided by the Training-Within-Industry Branch, now of the Federal Security Agency, in more than 3,000 war contracting firms.

To mention only a few of the more skilled jobs, women are being trained as tool and gage makers, as electric welders, as computers and draftsmen. They are being taught to read blueprints, a primary need in many jobs. In some cases they are being taught to set up as well as to operate their machines. Recent data for New York alone show women in training as machine-shop and sheet-metal workers. In some cases women are job instructors in the plants, sometimes also instructing men workers, and there are now a few instances of women training other women to be job instructors.

The most recent reports from the Government training courses show women constituting about 13 percent of the trainees in pre-employment training classes; among new entrants to these classes a somewhat larger proportion were women. This is a marked change, since practically no women were taken on for several months after such courses were first organized in the summer of 1940. An example of change after the Pearl Harbor attack is the San Diego school, which called for 500 women for aircraft training, and was asked to train 40 women welders for one plant alon and a "practically unlimited number" for other jobs and plants.

Schools and colleges in all parts of the country are adjusting to war needs their courses for women as well as men. Women are increasing in proportion among students in special technical war courses at colleges and universities, and these were being given as early as the summer of 1941 at major women's colleges such as Wellesley, Smith, and Bryn Mawr. By January 1942, women were being encouraged to attend the defense classes operated jointly by 8 engineering colleges in Brooklyn, N. Y., since a survey of 12 major defense plants in the area had shown need of women workers. Engineering courses in men's colleges such as Princeton also are opening to women. Business is calling for women from technical schools never before open to them. Particularly in demand is a knowledge of chemistry, of mathematics, of accounting. By the spring of 1942 over 13,000 women were enrolled in courses grouped as engineering, science, and management training. Women constituted 10 percent of these enrollees, the largest numbers taking courses in production supervision, general engineering, or electrical engineering.

### What Steps Were Taken for Effective Utilization of Women in British War Industries?

In January 1941, British Labor Minister Bevin stated that the need for more women in industry had become pressing. In March of that year a Women's Consultative Committee was appointed to advise the government on policies as to woman employment (a function similar to that of the Women's Bureau in the United States Labor Department). This committee is nominally an advisory body, but its advice is never disregarded or overlooked. An experienced woman had been appointed earlier to advise the Ministry of Labor on women's training.

In April and May 1941, when the war had been in progress more than a year and a half, women aged 20 and 21 were registered at the time of military registration for a new group of men, and before the end of the year women up to 31 were registered. These women were to be placed in industry. In January 1942, after nearly two and a half years of war, the registration was extended to women up to 40 years. These older women also were to be placed in industry, and meanwhile an act of December 1941 for the first time required the younger groups of women to serve with the armed forces. More women were needed especially in the army camps for clerical work, cleaning, cooking, telephone operation, and so forth. Some degree of choice was allowed a woman as between the auxiliary forces, civil defense, and certain much-needed factory work.

Women's organizations, members of Parliament, and other public-spirited women have constantly insisted on the importance of the government's keeping in close touch with women's groups in all matters concerning women's service. The Women's Consultative Committee has recommended that similar committees be appointed in the Ministry of Health and the Ministry of Food. They have sponsored plans for increasing the numbers of women admitted to government training centers. Women members of Parliament have urged that skills learned by women be fully used; that older women might do effective interviewing of women at the employment exchanges; that women's wage scales should be more nearly in line with those of men.

The district manpower boards, which deal with deferment, have women officers as members. The medical boards for women have women doctors as members, and a girl may request to be examined only by women. Women also sit on the "hardship committees" that deal with applications to postpone calling up on grounds of exceptional hardship. There are advisory women's panels to consider cases of girls wishing to work near home rather than to be classed as "mobile." Labor Minister Bevin expressed in Parliament the "Government's admiration and heartfelt thanks to the women who have responded so nobly to the Nation's need. . . ."

Other problems touching women's service in industry that are frequently discussed in England include provision of adequate canteens in factories, with hot food (the Minister of Labor now may require this to be done by the management where over 250 workers are employed); more use of part-time workers and of older women; organization of shopping services, or arrangement of time off to enable women to buy family food and supplies; better hostels for those sent away from home to work and experienced persons to aid in solving their problems; and so forth.

## Where Can Information Be Had as to the Work of Women and the Standards Important for Their Work?

In the years since World War I the Women's Bureau has investigated women's work and furnished the data that deal with women's hours and wages, their conditions of work, physical requirements, and the legal standards for their protection. These data have been presented continually in addresses, articles, chapters in books, pamphlets, radio addresses, and in other ways, both by Women's Bureau staff members and by many other persons and agencies who use Women's Bureau sources.

Quite recently many other agencies have become interested in this subject and more and more of these are preparing some material along these lines, for their membership or for other uses, employing to a large extent Women's Bureau findings, since the Bureau is the only agency authorized to deal with the employment of women *in all its phases* and for the country as a whole. Valuable data on the employment situation of women are now furnished by the Social Security Board; the Bureau of Labor Statistics, older than the Department of Labor itself, always has reported separate data as to women's wages in its special industry studies where women were an important part of the labor force; and the Office of Education now furnish data as to women's war training, and private agencies including college alumnae associations and women's professional organizations present material as to women, chiefly those in various professional or technical work. For 22 years the Women's Bureau has used experienced industrial investigators to meet the requirements of the Act of Congress creating the Bureau, which defined its duties as "to formulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment."

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# LABOR LAWS FOR WOMEN
ADVOCATED BY
WOMEN'S BUREAU, U. S. DEPARTMENT OF LABOR

VICTORY in the war depends both on men on the battle fronts and workers on the labor fronts. Women are an important part of our labor force at all times and an even more vital part during a war when large numbers of men must be inducted into military service.

LEGAL STANDARDS to conserve and safeguard our human resources are always essential, and doubly so now during our grave emergency. We must maintain our defenses and extend our legal bulwarks to guarantee on all labor fronts protection against the foes of fatigue, illness, accidents -- against the hazards of unemployment and old age. Legal safeguards prevent labor wastage in a period of labor shortage.

WOMEN WORKERS derive benefit from labor laws applying alike to men and women. But additional legal safeguards may be necessary to protect the interests of women -- the homemakers and mothers of the race. Many women are at work in States lacking certain types of legal standards. Other women are employed in occupational fields -- notably household employment and farm work -- exempted from labor laws. Thus in the legal defenses for women workers in this country, there are serious breaches -- some calling for State, others for Federal, action. A comparison of 13 types of necessary labor laws with existing legislation follows:

1. THE 8-HOUR DAY AND 48-HOUR WEEK -- as a ceiling to women's work hours should be set by law in each State. Then only will all industrial women be safeguarded against the bad effects of unduly long hours. In times of peace shorter hour standards may be feasible. Experience proves that when women must work under pressure over a long period .. hours not exceeding 48 a week mean better workers and higher output.

Legal hour standards should not be wiped out or undermined in the present emergency. To guard against such danger and to allow any necessary leeway in a grave crisis -- most States have provided for such an emergency through a clause in the regular law, or other action. Thus where an employer can prove his need to employ women longer than the legal limit for a limited time to meet war production schedules he may do so temporarily if granted a certificate by a State authority.

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The Federal Fair Labor Standards Act (applying to workers in inter-State industries -- those doing business across State lines) requires workers -- men and women - to be paid a time-and-half overtime rate for each hour in excess of 40, and thus serves as a brake on long hours. The Public Contracts Act, applying to establishments awarded Federal Government contracts of over $10,000 has a similar regulation. From the viewpoint of women workers this act is at present exceedingly important because of the large and growing numbers of women in the many plants with contracts for war materials.

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The 8-hour day with a 48-hour week (or less) is the legal maximum for women in some types of employment in 18 States, the District of Columbia, and Puerto Rico.

2. ONE DAY OF REST IN SEVEN -- as a legal requirement should be universal for workers. Such a weekly rest pays dividents to both workers and employers. Continued employment without a weekly break leads to breakdown of workers and production levels.

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21 States and the District of Columbia in their labor laws have limited the number of days in succession a woman may work, usually to 6 days out of 7.

3. A MEAL PERIOD OF AT LEAST 30 MINUTES -- during the workday should be required by law for all labor -- men and women. Food is the workers' fuel. Enough time — at least 30 minutes -- for a nutritious meal — helps to prevent fatigue and indigestion, and to increase energy and output.

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25 States, the District of Columbia, and Puerto Rico require an interval for meals.

4. TWO 10-MINUTE REST PERIODS -- (one in each half of the workday) could and should be stipulated by law for women in industry. Women tend to tire more quickly than men, and a brief rest picks up the worker and keeps up the output.

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Only about 3 States by regulation require for some types of women workers such a rest period in each half of the workday.

5. MINIMUM WAGE LEGISLATION -- is necessary to prevent unduly low wages for women. Such a safeguard is a benefit to all. It sets a floor to wage standards in general. It guarantees women workers enough pay for the bare essentials of living. It protects employers from unfair competitors. It helps to reduce relief rolls and thus to lighten the burdens on the community and tax payers.

The Federal Fair Labor Standards Act sets a floor to wages of men and women. It prohibits sex differentials in the minimum rates. The Public Contracts Act requires workers to be paid prevailing minimum rates as determined by the Secretary of Labor.

A minimum wage law applying to women is found in 26 States, the District of Columbia, Alaska, Hawaii, and Puerto Rico. Such a State law is an essential safeguard to wages of women in such intra-State industries as stores, laundries, hotels, restaurants, beauty shops, and so on, not covered by the Federal law. In some States having a minimum wage law, orders to cover women in certain industries have not yet been issued, and in most States some types of women workers, notably household employees and farm workers who need such protection, are exempted from the law.

6. ABOLITION OF INDUSTRIAL HOMEWORK — by law is the only sure solution to the problems connected with this system. Doing factory work in homes breeds such sweatshop practices as: Low pay, long hours, night work, child labor, bad working conditions. It tends to break down the health of the workers and the standards in the home. It undermines standards for factory workers. Legal regulation of the system helps to reduce but does not prevent wrong practices.

The Federal Fair Labor Standards Act exercises control over the system, in requiring the same minimum wage to homeworkers as factory workers and in setting up certain procedures to enforce this regulation. Orders issued by the Wage-Hour Division in administering the act practically ban homework in some industries. The Public Contracts Act prohibits homework on goods manufactured for the Government.

Of 20 States with some type of industrial homework law only a few control it to any considerable extent.

7. PLANT SAFETY, SANITATION, AND HYGIENE -- should be covered by State codes of detailed and compulsory regulations. Such requirements are essential to guarantee safe and healthful working conditions for all labor, to prevent absenteeism and labor turnover, waste of labor and loss in production. Increased efforts of this type to promote the workers' welfare are imperative in the war emergency because of the large numbers of new and inexperienced employees, including many women, working on unusual industrial processes for the first time. State codes should cover such matters as:

Safe and adequate buildings
Clean, well-ventilated, properly heated premises
Guarded machinery and safety practices
Protection against fire, excessive speed, muscular strain, lifting of unduly heavy weights; against explosives, dust, fumes, acids, or other harmful substances or conditions
Sanitary and satisfactory drinking, washing, and toilet facilities
Scientific lighting and ventilating arrangements for different types of work
Adequate seating for women workers
First-aid equipment and treatment and any essential medical care in the plant

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The Public Contracts Act is the most important Federal law helping to promote for women workers safe and healthful working conditions. In Government contracts (of more than $10,000) the act prohibits the manufacture of goods under dangerous or insanitary working conditions.

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The question of State legislation in this field is too complex and varied for discussion here. The different States vary considerably in regard to the adequacy of such regulations. A considerable number of States have set up boards or commissions with broad powers to formulate and enforce health regulations for industry. In some cases codes have been established by these agencies for specific occupations, such as the operation of abrasive wheels; in others, for specific hazards, such as work with lead; in still others, for industries, such as mining, chemical manufacture, and so on. The code method of regulation has proved very effective. It makes possible action as the need in industry arises, without the delayed legislative procedure.

8. WORKMEN'S COMPENSATION LEGISLATION -- is an essential method of requiring special benefits to be paid workers who incur disabilities as a result of their jobs. A fair amount of compensation should be paid both women and men for industrial injuries and occupational diseases to help them meet such emergencies. The system of basing compensation of this type on the worker's wage is an added argument against the double wage standard -- one set of rates for men and a lower set for women -- still found in many plants.

The United States Employees' Compensation Act (and amendment) is the chief Federal legislation of this type. It provides benefits for civilian employees of the United States Government, suffering from injuries or occupational disease sustained while in performance of duty -- (for example, workers in arsenals and quartermaster depots, and other workers within the jurisdiction of the Federal Government.)

Every State but one has a workmen's compensation act covering workers injured in industrial accidents. In only half the States and the District of Columbia does the law apply to occupational disease. The compensation laws do not cover all employments. Two types of workers who are generally not covered by workmen's compensation laws and who need such protection are household workers and farm workers.

9. EMPLOYMENT SECURITY -- including public employment service and unemployment insurance is an essential type of legal safeguard for wage earners. Without such assistance many are unable to find jobs, and because of insufficient earnings, can not save enough to tide themselves over a period of unemployment.

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The United States Employment Service furnishes free service through its Nation-wide network of local offices, to help workers to get jobs and employers to get workers. The machinery for an unemployment insurance system, as set up by the Federal Social Security Act, has led to the enactment of an unemployment compensation law by every State and Territory. These laws follow a general pattern, though many provisions differ. In general the laws exempt the same types of workers, some of whom authorities agree should be covered eventually after development of the necessary administrative procedures.

10. OLD AGE AND SURVIVORS INSURANCE -- as a system compulsory by law is essential to help workers to provide for themselves and families when their wage-earning stops due to old age or death.

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The Federal Social Security Act has set up such a system operated by the Federal Government on a Nation-wide scale for many kinds of employees. Other types of workers (including household employees and farm workers) now exempted, could and should be covered, if and when Congress takes the necessary action recommended by President Roosevelt and the Social Security Board.

11. VOCATIONAL REHABILITATION -- is necessary as a legal measure to help disabled people to secure treatment and training, enabling them to return to a normal self-supporting life, in all possible cases.

The Federal-State program established years ago through special legislation to guarantee vocational rehabilitation was provided more recently with additional funds through the Social Security Act.

12. COMPULSORY HEALTH INSURANCE -- should be established by law to enable workers to receive cash benefits and essential medical care in case of illness. Such a system should cover pregnancy of women workers. Insurance of this type guarantees benefits during an emergency when expenses increase and wages are often cut off.

No State or Federal legislation of this type exists in this country, though such laws are in effect in a number of other countries.

13. WORKERS' RIGHT TO SELF ORGANIZATION AND COLLECTIVE BARGAINING -- established by law is a necessary safeguard in our present industrial system when individual workers are unable to settle difficulties for themselves, and when collective action by labor can, at one time, adjust questions relating to many workers, and save time for management. Such a measure helps to prevent unfair employer practices and to promote better industrial relations.

The Federal Government through its National Labor Relations Act guarantees workers in all employment "affecting commerce" the right to organize and bargain collectively with employers.

8 States have passed State Labor Relations Acts differing in some respects from the Federal Act.

For further details write to:

WOMEN'S BUREAU
United States Department of Labor
Washington, D. C.

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

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# IMPACT OF WAR PRODUCTION ON WOMAN EMPLOYMENT

Women are becoming production workers in plants that have never before employed them. They are going into jobs that in many plants have been considered men's work. New factories are being built that must look to women for a considerable part of their labor force. The shift from peace-time to war production has increased the call for women, some of whom have never worked before, or have been engaged only in service, trade or other non-factory jobs. This twice told tale was found repeated again when the Women's Bureau surveyed war industries in New Jersey in the Summer of 1942. What was learned there may well typify the situation in any highly industrialized area making a considerable diversity of products.

The sample consisted of 137 plants devoting half or more of their production to war contract work. Well over half were engaged in war work alone. Most of these plants had reached volume production before Pearl Harbor. Four were built expressly for war work, and all but 21 of the others had made major adjustments in plant or machinery. The firms reported employment of 233,000 workers, nearly 3 in 10 of them being women. Women were more than two-thirds of the workers in apparel; more than half in textiles; well over a third in electrical appliances; a third in instrument manufacture; a fourth in ordnance accessories, and in plastic products; about one-sixth in chemicals, in machines and machine tools, in small metal parts and in rubber products; less than one-~~sixth~~ tenth in aircraft parts (engines and propellers).

Women's employment was increasing faster than men's according to data for 123 identical plants. From 1940 to mid-1942, total employment increased 80 percent, women's 100 percent. Their greatest increase was in communications equipment, instruments, ordnance, aircraft parts and apparel in that order. It is significant that 22 of the 137 plants visited were employing women for the first time because of the war emergency. These 22 plants cover more than 8 industries and alone account for the recent employment of more than 6,000 women.

It is a striking fact that by June 1942, more than 1 in every 9 women factory workers were holding jobs ordinarily held by men. If textiles and apparel industries are excluded the ratio becomes about 1 in 7. Nearly half the women in men's jobs were in two very different industries - aircraft parts and electrical equipment. In the electrical industry, long established and traditionally woman-employing, only 7 in 100 women were substitutes. The making of aircraft parts is a relatively new venture, and previous to the war almost exclusively a man-employing enterprise. In the three firms visited all the women were replacing men. Extensive conversion necessary to change from civilian production introduced women into jobs entirely new to the establishment. This situation was particularly marked in ordnance plants where more than twice as many women were found on such new jobs than were on those formerely held by men. Other industries showing high proportions of all women who were on jobs formerly held by men were chemicals, 42 percent; machines and machine tools, 33; small metal parts, 28. About 15 percent of the women in machines and machine tools were on new jobs. In other industries the proportions were very small.

i.e. all women in chems 42 pc on mens jobs etc

Almost no discernible change was found in occupations of women in apparel and textiles and these industries are excluded from further consideration of job changes. When specific occupations are examined in which women are being employed as replacements in the other industries, a "most ingenious ? paradox" is brought to light. There are actually few types of jobs in which women are now being substituted for men in some plants that they have not regularly held before the war in others. Only 4 in a group of about 25 factory occupations in which women were employed at the time of the survey are not represented among those that women held in one or more establishments before the war. And, except for the job setters in one large electrical factory, each and every one of the 25 jobs were named somewhere in the sample as one women were filling for the first time in a specific plant. So, on the whole, the change is not as revolutionary as might seem at first. What is needed to bring about a more prompt use of womanpower - the greatest available labor supply not yet utilized - is an exchange of information which usually is brought about only by such surveys as have been made by the Women's Bureau.

As far as this study goes, the 4 really new jobs for women seem to be these: Gear shapers, hobbers and cutters; optical glass grinders; automatic screw machine operators; tool crib attendants. Moreover, in very few of the plants visited had women been employed before the war as store room clerks and draftsmen or tracers. Women appear to be replacing men more rapidly at machines than in any other type of work. ① Machine operators are less than a fourth of the women who are holding on to pre-war jobs, but are half of those who have recently been substituted for men. The more usual machine jobs for women in these industries had been armature and coil winding and other machines peculiar to the electrical industry, and punch or forming machine operation. The new jobs in which women were found in substantial numbers were operation of drill presses, grinding and milling machines, various bench machines and lathes. Factories making instruments and aircraft engines and propellers alone accounted for well over two-fifths of the women replacements on machines. After machine operators, the most important occupational groups from the standpoint of numbers of women substituted for men are ② assemblers and ③ inspectors. The majority of the assemblers were in electrical plants and in the factories making small metal parts, while 2 aircraft engine and propeller firms alone claim more than half the substitute inspectors.

An important question inevitably arises when the replacing of men with women in factory jobs is discussed. Are the women actually performing the same work as the men before them or has it not been necessary to adjust the job in some way? This question was asked of firm officials in the 67 plants surveyed in which women were employed as substitutes. Twenty-seven of the plants or 2 in every 5 reported no adjustments of any kind in any of the jobs in which women had been hired to replace men. Changes were made, however, in 40 plants. Men were assigned in 18 of the 40 to set up and service the machines which women had been taken on to operate. Men do the heavy lifting for the women on some jobs. In describing others, the management claimed in a few instances that women were given the easier, simpler or lighter operations to perform. The jigs and dies had been modified in one concern and in another a conveyor had been installed to aid the women in certain machine operations. A few firms reported that women could do only one operation of a complex job, whereas men performed many.

It is significant that though women had been substituted for men on the drill press in 18 firms, in only 7 was it considered necessary to retain men to set up and service the women's machines. Likewise, in the case of lathes, the women performed their own set-up work in 8 out of the 11 plants in which they were replacements for men. No adjustments in the job were made for the newly employed women gear shapers and hobbers, optical glass grinders, or automatic screw-machine operators, and these were new jobs for women.

As their activities have changed or expanded, a number of firms have had to alter or add to the steps in their productive process, thereby developing in many cases an entirely new group of jobs. Nearly a fifth of the firms visited reported having hired women to fill such vacancies, well over half as inspectors, assemblers, or punch and forming press operators, but many in other machine and hand operations.

Visits to nearly 700 women working in war plants brought out another point of general applicatioh. Of 416 factory women visited in New Jersey who had been with their company 2 years or less, fully half had no previous experience in industry before taking their wartime productive jobs. One in every 5 had been recruited from the ranks of the local housewives and almost 1 in 4 from such groups as domestic, clerical, sales and service workers, beauticians, teachers, and students.

Rehiring of former employees who left or were at one time laid off occurred in approximately one-fourth of the plants; one-thrid report taking transfers from other local firms,

It cannot be said from the data that women are not readily available for war work in New Jersey. Nearly 2 in every 3 women interviewed secured their jobs by personal application at the plant and most of the others were recommended by a relative or friend. Few answered newspaper ads or resorted to the use of a private employment agency. It is significant that only 60 out of a total of 679 women reporting used the public Employment Service.

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The growing importance of women in manufacturing industries both those producing for civilians and those concerned with the war effort is shown by a report of the New York Department of Labor on changes in numbers of men and women in that State between January and October 1942. Approximately three times as many women as men had been added to factory payrolls in the 9 monhts. A shift from men to women had accurred in nearly all manufacturing industries. In 8 of 12 industry groups men's employment had fallen off, by more than 10 percent in 4. Women's employment declined only in the textile group, and that by 2 percent compared with 14 percent for men.

The most notable increase in women's employment had taken place in war production. The metal industries which added 22 percent to the total number of employees accomplished it by adding 123 percent more women and only 13 percent more men. The professional and scientific instruments, photographic and optical goods industries are among those holding important government contracts. In these men's employment increased 16 percent, women 76. In other industries which undoubtedly produced to some extent for war needs the situation was as follows:

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| Chemical and petroleum products | Men 11% decrease | Women 19% increase |
| Rubber products | Men 33% decrease | Women 84% increase |
| Furniture and lumber products | Men 17% decrease | Women 25% increase |
| Leather products | Men 9% decrease | Women 12% increase |

Turning to industries producing quite largely for the general consumers, the same marked differences were usually found:

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|---|---|---|
| Food and tobacco products | Men 9% increase | Women 41% increase |
| Printing, etc. | Men 8% decrease | Women 18% increase |
| Stone, clay, and glass | Men 8% decrease | Women 57% increase |
| Paper, etc. | Men 19% decrease | Women 19% increase |

**Serial No. R. 1502**

[From the MONTHLY LABOR REVIEW (December 1942) of the Bureau of Labor Statistics, United States Department of Labor]

# WAR WORK OF THE WOMEN'S BUREAU, U. S. DEPARTMENT OF LABOR

EARLY in 1941 the Women's Bureau was formally recognized as the official agency for all matters relating to women's employment in the war effort. It had recorded the World War experience in the use of woman labor in 1917 and 1918 and, for many years thereafter, had been consulted by the Planning Division of the War Department concerning the employment of women during any future war. It was natural, therefore, that the Under Secretary of War, Robert P. Patterson, should write the Secretary of Labor, under date of March 15, 1941, "* * * I shall take measures to see that the services in the War Department take up all matters of concern to woman workers with the Women's Bureau."

Since that date there has been close cooperation with the several services in the War Department to bring about the most effective employment of women in war industries. Cooperative relationships have been established, as occasion warranted, with the Navy Department, Civil Aeronautics Board, Office of Vocational Education for National Defense, National Housing Authority, Office of Defense Health and Welfare Services, National Labor Relations Board, War Production Board, State labor departments, women in labor unions, USO organizations, scores of individual employers having war contracts, and latterly with the War Manpower Commission.

## *Analyses of Jobs for Women in War Industries*

Although War Department's plans called for utilization of women in war industries and several arsenals pioneered in extending women's employment to many processes, the availability of masses of men during 1940 and early 1941 resulted in a lack of interest in woman workers on the part of private employers. It was deemed advisable to take advantage of this pre-war period to become fully informed of modern methods of producing the weapons of war, to review the background of women's employment during World War I, and to make careful analyses of jobs in relation to their suitability for women.

The work women were doing on punch presses, drilling machines, milling machines, lathes, grinders, and polishers, as well as their high record of achievement in inspection, assembly, filing, and other bench work in peacetime metal and electrical industries were well known to the Women's Bureau. The extent to which these developed skills would be useful to war-implement industries was easily demonstrated. In the last war women had proved themselves able in an emergency to make good on any job, if adequately trained. However, for practical purposes in the first year of the present war, it seemed advisable to limit recommendations for women's employment to work comparable to what many women have done or are doing in other industries—to work the average woman can do as well as, or better than, the average man. If women were placed in such occupations only, the greatly expanded war production program could be met with a labor force composed one-fourth of women.

In the following pages is given a summary of suggestions as to possibilities of extended utilization of women in principal operations in the making of airplanes, instruments of varied types, and small arms and artillery ammunition, which was made for Government departments and private employers during 1941. Detailed descriptions of occupations are given in the body of a report on each industry. In 1942, similar occupational analyses were or are being made of pistol, rifle, and gun manufacture, machine-tool production, shipbuilding, airplane engine and propeller building, and explosives manufacture. As demands of the Army and Navy call more men from production, these analyses will be extended to other industries.

Women's employment in war industries has increased materially in the last 6 months. Most spectacular is their employment in airframe manufacturing, where they constitute 13 percent of the productive staff as compared to less than 1 percent in 1941. Estimates of May 1942 indicate that even when office workers are included the total number of women in manufacturing war supplies is less than a million or 11 percent of the almost 8 million workers. Obviously, full utilization of women in the occupations listed below is far from being achieved.

### AIRCRAFT ASSEMBLY [1]

In every department of the aircraft industry, as now organized there are varying proportions of occupations in which women may be employed as the industry expands. In all departments there are jobs deemed not suitable for women, either because the work is beyond the average woman's physical strength (570/1000 that of man) and resistance (679/1000 that of man), or because the work requires lengthy experience and training which the emergency does not permit.

However, many of the jobs which women can do most effectively are to be found in production departments, such as machine shop, the press and forming, metal fabrication, bench and stainless steel assemblies, the assembly of the fuselage, wings, control surfaces, cowling, fairing, tank, final assembly, painting, covering, heat treating, anodizing, and welding departments. From a practical standpoint at the present time, departments concerned with the design, lay-out, making and repairing of patterns, molds, templates, jigs, fixtures, tools, and experimental planes, and the service departments, require a high degree of mechanical skill and experience which few women have or could obtain in a short period. In the foundry, shipping, receiving, trucking, and maintenance, much of the work is intermittently heavy and concerned with cumbersome parts. The jobs involved in these departments, however, include not more than 15 percent of the total factory employment.

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[1] See U. S. Women's Bureau Bulletin No. 189-1; Women's Factory Employment in an Expanding Aircraft Production Program, Washington, 1942.

As a conservative estimate it seems reasonable that at least one-fourth to one-third of the jobs in the aircraft-assembly plants might be filled satisfactorily by women.

The following is a list of the principal jobs on which women may be employed effectively:

Machine operating:
  Drilling, reaming, countersinking on single, multiple drills, and pneumatic drills.
  Small milling machines.
  Small turret lathes.
  Small and medium-sized punch presses.
  Small angle-bending machines and brakes.
  Light grinders.
  Riveting and dimpling machines.
  Spot welding.

Bench work:
  Burring and filing of all kinds.
  Soldering.
  Hand forming over templates and blocks.
  Tube cutting, bending, and assembly.
  Electrical assemblies.
  Wiring and bending.
  Subassemblies in jigs and at benches.

Hand and machine sewing of covers and fabric accessories.
Stretching of covers on plane surfaces.
Doping.
Painting—Spraying of small parts, stenciling, applying decalcomanias, masking, touch-up, etc.
Racking in paint, heat treating, anodizing, and plating departments.
Detail inspection of parts and subassemblies.
Departmental factory clerks and assistants in planning, parts control, blueprint despatching, and drafting.
Tool-room attendants.

### INSTRUMENTS—AIRCRAFT, OPTICAL AND FIRE-CONTROL, AND SURGICAL AND DENTAL [2]

In normal times the manufacture of instruments of the types covered was on a relatively small scale, and much of the production of aircraft and fire-control instruments was on a constantly changing and experimental basis. For many years, machining and assembly were done almost entirely by men classed as all-round skilled instrument makers. However, with increased production, jobs have been broken down and women employed to a considerable extent. The proportion of women and the jobs on which they are employed, however, differ materially from plant to plant. In some plants women are working satisfactorily on machine and assembly operations, while for the same jobs in other plants women have never been considered.

In Great Britain special training courses have been offered to women as well as men in the making and fitting of instruments. Instruction covering both theory and practical application is provided in correct use of tools, gages, calipers, verniers, micrometers, and in blueprint reading, soldering, buffing, drill presses, lathes, gear cutters, milling, precision fitting, and bench assembly. In the United States, in the defense training program in most of the cities visited, general courses in machine-shop practice and assembly were open to relatively few women. Only two plants had courses of study and specific training programs as formal instruction for employees, and in one plant only men had been admitted because the training was given primarily as part of an upgrading plan and the policy was not to consider women for job progression beyond unskilled repetitive work. In all other plants, training was on the job. Many of the beginning jobs in the machine-shop, assembly, and inspection sections have been closed to women, as these operations are regarded as the beginning step for young boys who progress to more skilled work.

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[2] See U. S. Women's Bureau Bulletin No. 189-4: The Employment of and Demand for Women Workers in the Manufacture of Instruments—Aircraft, Optical and Fire-Control, and Surgical and Dental, Washington, 1942.

The summary presented below is merely indicative of the kinds of work being done and the feasibility of extending the employment of women on the various processes.

*Aircraft instruments*

| | *Sex* | *Possible extension of women's employment* |
|---|---|---|
| Assembly and bench work: | | |
| Mechanism subassembly | M and W | Proportion could be increased. |
| Mechanism final assembly | M and W | Do. |
| Special assemblies— | | |
| Diaphragm | M | Women could be used entirely. |
| Pitot tube | M | Slight probability of using. |
| Gyro motors | M and W | Proportion could be increased. |
| Autosyn electric motors | M and W | Do. |
| Closing of instruments | M and W | Women could be used entirely. |
| Testing and inspecting: | | |
| Parts inspection | M and W | Proportion could be increased if trained or upgraded from instrument-assembly operations. |
| Calibrating | M and W | |
| Electrical tests | M and W | |
| Cold, vibration, and run tests | M and W | |
| Final instrument inspection | M | |

*Optical and fire-control instruments*

| | | |
|---|---|---|
| Optical work: | | |
| Blocking | M and W | Only a few women used on single-spindle blocking and polishing.<br>With training, women could be used or proportion might be increased on all operations. |
| Grinding | M | |
| Polishing | M and W | |
| Centering | M and W | |
| Cementing, engraving, etching, and silvering. | M and W | |
| Cleaning and inspecting | M and W | |
| Assembly and bench work: | | |
| Range and height finders, panoramic sights, periscopes, plotting boards, quadrants, sextants, octants, etc.— | | |
| Minor subassemblies | M and W | Subassemblies made by women are very minor; not much possibility of increasing proportion. |
| Main assemblies | M | |
| Binoculars, telescopes, aircraft sights, and small gunsights— | | |
| Mounting, cleaning, and inspecting optical parts. | M and W | Proportion could be increased. |
| Sighting, adjusting, collimating, calibrating, etc. | M | With training, women could do in part. |

*Surgical and dental instruments*

|  | *Sex* | *Possible extension of women's employment* |
|---|---|---|
| Assembly and bench work: |  |  |
| Forceps, pliers, retractors, etc | M | Slight probability of increasing proportion. |
| Dental stands and chairs— |  |  |
| Minor subassemblies | M and W |  |
| Main assemblies | M |  |
| Dental hand pieces and fittings | M and W | Proportion could be increased. |
| Clinical thermometers | M and W | Women employed extensively. |
| Special machining of dental burrs and broaches. | M and W | Do. |

*General operations applicable to most instruments and small-metals production*

|  |  |  |
|---|---|---|
| Heavy-duty machines: |  |  |
| Drill presses | M and W | Proportion could be increased. |
| Punch presses | M and W | Do. |
| Milling machines | M and W | Do. |
| Metal polishing and grinding | M | Not suitable for women. |
| Turret lathes | M | With extensive training women could be used on lighter machines. Otherwise, probability slight. |
| Engine lathes | M |  |
| Hand screw machines | M |  |
| Automatic screw machines | M |  |
| Gear cutters | M |  |
| Secondary or light machines: |  |  |
| Bench, watchmakers' lathes, etc. (turning, buffing, burnishing, burring, lapping, etc.) | M and W | Women employed quite generally and they could do more of light work. |
| Micromilling | M and W |  |
| Sensitive drill press | M and W |  |
| Small automatic screw | M | Slight probability without extensive training. |
| Hand and machine burring | M and W | Proportion could be increased. |
| Machine-shop inspection | M | Slight probability of employment. |
| Painting: |  |  |
| Spray | M and W | Proportion could be increased. |
| Touch-up and brush | M and W | Women employed extensively. |
| Fill-in | M and W | Do. |
| Radium | W | ——— |
| Graduating and engraving | M and W | Proportion could be increased. |
| Heat treating, plating, and anodizing | M | Not suitable for women. |
| Inspecting, cleaning, wrapping for stock and shipment. | M and W | Proportion could be increased. |

### ARTILLERY AMMUNITION AND COMPONENTS[3]

Women already are employed in Government arsenals and in parts manufacture at many operations, specifically as machine operators, assemblers, inspectors, packers, and so on. The new plants will offer many similar jobs. There will be wide opportunity of further expansion of women's employment in an expanding production, both on new jobs and as substitutes for male operatives if the need arises. Undoubtedly women can carry on well over half of the operations in the manufacture of artillery ammunition. The list following shows the possibilities of extended utilization of women in making artillery ammunition.

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[3] **See U. S. Women's Bureau Bulletin No. 192-2: Women's Employment in Artillery Ammunition Plants, Washington, 1942.**

| | *Sex* | *Possible extension of women's employment* |
|---|---|---|
| Metal components manufacturing: | | |
| Toolmaking, adjusting, setting up machines, etc. | M | Not suitable for women. |
| Machine operations | M and W | Proportion could be increased. |
| Assembly | M and W | Do. |
| Inspection | M and W | Do. |
| Fuze assembly (including detonators, fuze primers, boosters, etc.): | | |
| Machine operations | M and W | Women could be used almost entirely. |
| Assembly | M and W | Do. |
| Inspection | M and W | Do. |
| Loading | M and W | Do. |
| Packing | M and W | Do. |
| Propellant primers: | | |
| Body and head machine operations. | M and W | Proportion could be increased. |
| Assembly of body and head | M and W | Do. |
| Loading (explosives operators)— | | |
| Head | W | — |
| Body | M | Women could be used entirely. |
| Projectile manufacturing: | | |
| Machine operations | M | Women could be substituted in part on lighter projectiles. |
| Inspection | M | Women could do 37-mm. |
| Painting | M | Do. |
| Packing | M | Do. |
| Cartridge-case manufacturing: | | |
| Drawing, annealing, pickling, etc | M | Not suitable for women. |
| Machine operations | M | Could be substituted in part. |
| Stamping identification | W | — |
| Inspection | M and W | Proportion could be increased. |
| Packing | M and W | No further extension possible. |
| Projectile loading: | | |
| Melting, pouring, and compressing explosives. | M | Not suitable for women. |
| Drilling fuze cavity | M | Do. |
| Cleaning threads and miscellaneous light jobs. | M | Women could be substituted in part. |
| Case loading and assembly: | | |
| Inserting primer | M | Women could do 37-mm. and 75-mm. |
| Weighing and pouring powder | M and W | Women could be used entirely. |
| Crimping case to projectile | M | Women could do 37-mm. |
| Miscellaneous machine operations | M | Women could be substituted in part. |
| Painting and stenciling | M and W | Proportion could be increased. |
| Packing | M and W | No further extension possible. |
| Inspection | M | Women could do 37-mm. |

| | *Sex* | *Possible extension of women's employment* |
|---|---|---|
| **Bag loading:** | | |
| Bag sewing— | | |
| Cutting and trimming | M | Women could be used entirely. |
| Power-machine operating | W | — |
| Smokeless-powder bag loading— | | |
| Weighing and loading | W | — |
| Sewing loaded bag | W | — |
| Black-powder bag loading— | | |
| Weighing and loading | M | Not suitable for women if hopper must be filled. |
| Sewing loaded bag | W | — |
| Putteeing propellant charges | M | Not suitable for women. |
| Inspection | M and W | Proportion could be increased. |
| Packing | M and W | Do. |
| Explosives manufacturing: | | |
| Smokeless powder | M | Not suitable for women. |
| Black powder | M | Do. |
| TNT, amatol, etc | M | Do. |
| Black powder pellets | M | Women could be used entirely. |
| Tetryl pellets | M | Do. |

## SMALL-ARMS AMMUNITION[4]

Since the small-arms ammunition industry has a small product which is standardized as to operations and machining and which requires considerable care and attention to detail, women have been used extensively, and as the new plants get into production many more women will be employed in this branch of the defense program. In the Government arsenal at Frankford approximately 40 percent of the productive workers in 1941 were women, and as the dilution of labor increases, women undoubtedly will constitute a considerably larger proportion.

Women comprise a much larger proportion of the munition makers abroad than in the United States. Possibilities of extended utilization of women for such work are summarized in the following.

| | *Sex* | *Possible extension of women's employment* |
|---|---|---|
| Bullet manufacturing: | | |
| Bullet jacket: | | |
| Drawing (several draws) | M | Women could be substituted in part for men. |
| Annealing, pickling, and washing. | M | Not suitable for women. |
| Trimming | M and W | Proportion could be increased. |
| Bullet point or core— | | |
| Melt and ingot molding | M | Not suitable for women. |
| Extruding and forming | M | Do. |
| Washing and drying | M | Do. |
| Bullet assembly | M and W | Women could be used entirely. |
| Tracer-bullet charging | M and W | Proportion could be increased. |

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[4] See Women's Bureau Bulletin No. 189-2: Employment of Women in the Manufacture of Small Arms Ammunition.

| | *Sex* | *Possible extension of women's employment* |
|---|---|---|
| Case manufacturing: | | |
| Drawing (several draws) | M | Not suitable for women. |
| Annealing, pickling, and washing. | M | Do. |
| Polishing | M | Do. |
| Pumping, pocketing, and heading. | M | Do. |
| Trimming | W | ——— |
| Head turning | M and W | Women could be used entirely. |
| Body and mouth annealing | M and W | Do. |
| Tapering | W | ——— |
| Chamfering | M | Not suitable for women. |
| Primer inserting | W | ——— |
| Primer: | | |
| Blanking and forming cup and anvil. | M | Women could be substituted in part for men. |
| Shellacking strips for foiling | W | ——— |
| Pellet forming | M | Women could be substituted for men. |
| Foil and knock out | W | ——— |
| Inserting of anvil | W | ——— |
| Press anvils into primer cup | M | Women could be substituted for men. |
| Primer inverting | W | ——— |

## *Counseling of Employers*

The widespread attention given since December 7, 1941, to the calling of women as a practical source of new labor supply has constantly increased the number of calls on the Women's Bureau from individual employers requesting advice as to the occupations and the conditions of work found successful for the employment of women. As far as is possible with a limited staff, these calls are met by personal visits to the plants by industrial experts familiar with the manufacturing processes and equipment. Other requests are met by letters giving detailed information. Groups asking for experienced advice are reached by addresses made by staff members to managerial associations, safety engineers, personnel directors, and so forth. Furthermore, in order that the Bureau's accumulating knowledge not only of the potential occupations of women but of their actual efficiency in such occupations may be made to reach the largest possible number of employers, as well as the many officials engaged in recruiting women and in forming training classes, the Bureau prepares for distribution mimeographed reports on industries.

Many companies primarily engaged in making war implements, or converting their operations to war work, must have the assistance of an agency whose personnel is experienced in advising as to the needs of a woman labor force. Such requests have come to the Women's Bureau from engineering firms and arsenals and from companies producing machine tools, sheet metal, ordnance, optical goods, locomotives, iron and steel products, copper and brass products, ammunition, electrical supplies, cement, chemical products, petroleum, glass products, aircraft, automobiles, and food products.

Plant managers, superintendents, training supervisors, personnel directors, medical advisers, and others pose all sorts of questions to the Women's Bureau. Typical is the statement of a personnel director of a machine company expected in the near future to hire some women for factory work: "Before planning, we need some specific information." Or of a woman supervisor who says: "In heading up a women's program for our company, I am anxious to secure all pertinent materials." Included in types of information asked for by such plant officials are data on the following: The kinds of jobs women can do best; the extent to which they can handle the heavier work; methods and necessary time for training and upgrading woman workers; measures of women's skill; general health conditions for woman workers and their characteristic medical needs; proper methods of seating for correct posture; safety requirements as to headgear, shoes, and uniforms; laws and regulations as to women's work; wage standards for newly developed jobs for women; preventive measures in use of industrial poisons, causes and care of dermatitis, and other health hazards. And these employers have many more needs that the Women's Bureau has to meet.

### *Conditions of Employment*

Plant management is desirous of obtaining information not only as to occupations suited to women but as to the physical requirements designed to spell efficiency in the use of a woman labor force, such as desirable arrangements of work shifts, advantageous rest periods, suitable and safe work apparel, healthful seating, adequate service facilities, and personnel requirements. To cover such matters, concerning general standards and policies to be observed, the Bureau is issuing a series of pamphlets that summarize some of the best data on subjects about which employers are asking. Already published are:

Hazards to Women Employed in War Plants on Abrasive Wheel Jobs.
Night Work for Women and Shift Rotation in War Plants.
Women's Effective War Work Requires Time for Meals and Rest.
Washing and Toilet Facilities for Woman War Workers.
Safety Clothing for Women in Industry.
Lifting Heavy Weights in Defense Industries.

These are done in such easily readable fashion that some firms have ordered them in 5,000 lots for distribution to workers. In preparation are similar pamphlets on seating, and on dermatitis. The Bureau also has prepared material requested by the War Department, to be incorporated as the section on working conditions of its health and safety manual, for the use of plant supervisors.

Many complaints have reached the Bureau from workers, in respect to conditions in plants that had always employed women but have speeded up or expanded because of war contracts. To secure a factual understanding of such difficulties, some 700 woman workers were called upon in their homes. The relationship of conditions of work to morale of woman workers was clearly discernible. The plants in which these women worked also were visited, and wherever possible needed changes were discussed with management. These personal interviews are being followed up with letters containing pertinent material for the use of the employers. That such a method achieves results may be judged from the answers received, excerpts from which follow:

> We are happy to report that most of the things complained about [by employees] have been corrected. We are taking immediate steps to correct the remainder.

Mrs. ——— gave us several very constructive suggestions and it has been a pleasure on our part to have followed these instructions. We believe another visit will find a marked improvement in the handling of the matters brought to our attention.

You may be sure we are correcting the crowded toilet conditions to which you refer, as rapidly as possible.

Some of the comments of woman workers are worthy of summarizing here, as they indicate attitudes that result in plant problems and have a definite effect in lessening production:

*Wages.*—Older employees resent the fact that they worked without increases in pay for years and now new employees earn as much as they do.

A feeling existed that machine operators should receive more than bench workers because work is harder.

Confusion and lack of understanding was expressed about the system for wage increases.

*Absenteeism.*—When the plants work 7 days a week very few women on the third shift report for work Saturday night. Now, when they have Saturday nights off, few will work Sunday night.

Many of the women employed have home responsibilities and must have time off to do their housework.

Young girls take time off to shop around to find the job they like best.

Absenteeism may be caused partly by lack of interest in the job and a feeling that it is not very important. Where an absence report is required of each person when she returns to work, it is customary for the women to state that their absences are due to illnesses regardless of the cause. [The latter statement checks with the very limited amount of illness reported by woman workers to Bureau agents.]

*General conditions in plant.*—Present arrangement of eating at machine, in toilet rooms, or in automobiles is not satisfactory.

Employees would like to be able to get hot coffee in plant.

Toilets in old building are not clean and are not adequate in number but are overcrowded.

The washroom is not available for half an hour before leaving. [This seemed most annoying to workers traveling long distances in public conveyances.]

Since it is frequently cold in workrooms in old building, girls must either smuggle coats into the room or go through a lot of red tape to get permission to get their coats.

Thermos bottles have been opened for inspection when brought into the building. Heat is lost.

[There is much evidence of need for interpretation of firm policies, and for a personnel manager to whom complaints can be made and who will allay rumors and exaggerated notions.]

## *Wage Rates in Occupations of Women and Men in War Industries*

The speed with which women are employed, as well as their spread over the occupational field, changes in direct relation to the availability of male labor in each area. Today, in one plant men are working on jobs that women are doing in another plant having similar production, and in more and more cases men and women are working side by side on the same work in the same plant. In such situations, many wage-rate problems arise, calling for new scales both in union agreements and in nonunion plants. At the urgent request of woman workers, the Women's Bureau has held many conferences with trade-union officials concerning the subject. The result has been that the United Electrical, Radio and Machine Workers of America and the United Automobile, Aircraft and Agricultural Implement Workers of America have agreed that woman workers shall receive the same wages as men when they perform the same operations, and such a clause becomes a part of new local contracts.

This subject has been included in several cases before the National War Labor Board. In order to outline sharply the present situation for the Board's attention, the Women's Bureau made a detailed job analysis of the work done by women and men in several gun plants, and presented a factual statement concerning the work done by women and men and the wage rates paid on various processes. Time and again the maximum rate paid to women on comparable operations was lower than the minimum rate paid to men working on the same machine and same part. Such differences in wage rates cause much unrest among both man and woman workers. The National War Labor Board in its directive order in the case of the General Motors Corporation and the United Automobile, Aircraft and Agricultural Implement Workers of America stated:

> Wage rates for women shall be set in accordance with the principle of equal pay for comparable quantity and quality of work on comparable operations.
>
> Any dispute arising as to the question of quality, quantity, or comparability, as herein defined, shall be subject to final determination by an arbitrator appointed by the National War Labor Board; provided, however that any such dispute which involves an alleged violation of a local wage agreement shall be settled within the procedural framework of the grievance provision in the agreement.

To assist both employers and union officials, and in response to repeated requests, the Women's Bureau has prepared a bulletin giving information on various aspects of the subject of women's wage rates, showing official Government support of the "equal pay" principle, and inclusion of clauses to this effect in union agreements, and summarizing experience as to related subjects, such as standards of women's output, their special skill in the light industrial processes now so widely demanded in the manufacture of war necessities, and so forth. The Women's Bureau outlines the following as a general standard recommended in fixing women's wages in plants manufacturing war products:

> 1. If the job or operation is a new one, the rate should be fixed according to the job, and regardless of whether a man or a woman is to perform it.
> 2. If a woman is placed on a job formerly done by a man, or on a type of job customarily done by a man, she should receive the identical rate paid the man. Managements sometimes make slight changes for the purpose of improving the process, and such changes cannot be taken as a valid basis for paying a lower wage rate to women.

The largest numbers of women are and will continue to be employed in nonwar industries and services. With increased living costs, with a much higher wage standard in war-implement industries, discontent and restlessness ensue among such workers, who are essential for civilian life. Less than a third of woman workers are organized in trade-unions. For many millions of women who are not organized, legal minimum-wage rates have afforded the only means of eliminating substandard wage rates. The fixing of legal minimum-wage rates by States was essential to insure payment of a fair living wage to workers in service industries not covered by the Fair Labor Standards Act. Up to the time the President established the Office of Economic Stabilization, the Women's Bureau had been advising State authorities as to the types of legal regulations that have proved most effective in correcting injurious conditions of employment during the war period.

The Bureau also renders technical assistance on all phases of minimum-wage legislation, administration, and enforcement. This technical assistance reaches through all stages of minimum-wage activity.

For example, where a State agency desires to issue new wage orders, the Bureau cooperates in the preliminary survey of the cost of living of employed women in the State, and prepares draft wage orders to assist wage boards, incorporating standards found to be desirable by experience. Or, where a State finds it advisable to revise a wage order or one of its provisions, to meet a specific enforcement problem, the Bureau's experts suggest methods and wording; they also constantly advise with all States on enforcement methods and techniques, and in this way are able to give each State the benefit of the methods and experience of other States.

The authority vested in the National War Labor Board to approve wage increases calls for a new form of assistance by the Bureau to the 26 States having minimum-wage legislation, which may wish to increase their issuance of new wage orders or revise present orders by bringing them in line with the rising cost of living.

### *Labor Laws and Regulations Affecting Women's Work*

Immediately after the Pearl Harbor attack the War Department called on the Women's Bureau to make investigations as to the operation of certain labor regulations in the employment of women in war-implement factories. This situation was surveyed through visits to plants having large war contracts in several major industrial States. Subsequently, the Bureau participated in joint conferences of State labor commissioners and the War and Navy Departments for the preparation of acceptable basic labor standards for woman employment in plants having war contracts.

These agencies at that time designated sound labor standards as "the mechanisms of efficiency," and stated that "industrial history proves that reasonable hours, fair working conditions, and a proper wage scale are essential to high production." Subsequently, very few States found modifications of law necessary to make it possible to meet production schedules, and most of these few made only very minor changes. The Women's Bureau endorses the policy that authority to grant temporary modifications of existing laws be lodged in State labor departments and that the following procedure be observed when the quantity of temporary exemptions makes it necessary.

> Each employer seeking temporary exemption from State labor laws to be required to file an application with the labor commissioner.
>
> Each application to be thoroughly investigated by the labor commissioner to determine whether the need for such an exemption actually exists.
>
> No permit granting an exemption to be issued to an employer who can maintain labor standards by using available labor supply, or by making adjustments in the organization of his plant.
>
> No permit to be issued, even though trained workers are lacking, unless the employer makes satisfactory arrangements to train or to secure trained workers within a reasonable time.
>
> No exemptions to be granted to employers not engaged in war work.
>
> No permit to be issued if the health and welfare of the workers would be endangered thereby.
>
> Permits to be limited to individual plants and for specified periods of time and to be revoked when exemptions are found to be unnecessary to maintain maximum war production.

In the ensuing months the Women's Bureau has observed the effect of these recommendations through plant investigations within several States, and is continually cooperating with State labor departments, as well as with the employers, in the alleviation of conditions of women's work so unsatisfactory as to affect their health and output.

Studies are being and will continue to be made of the effects of the administration of existing legislation on the well-being of woman workers. For example, a study is about to be undertaken to determine whether benefit-payment policies of State unemployment compensation commissions are forcing women to work longer than they should immediately before childbirth, or to return to work too soon afterward, or to accept night work and other injurious job conditions whether or not they are physically fitted for them. This has been especially important at the present time because of the increasing employment of married women and the increasing birth rate.

### *Community Facilities in Industrial Areas*

Plants manufacturing or handling explosives have been located in rural areas. The Women's Bureau has made special investigation in 17 of these areas concerning the adequacy of housing, food, recreational, and other facilities for working women. Since most of these plants have been quite recently constructed, accommodations frequently were inadequate. Following such investigations, recommendations were made to the National Housing Authority concerning the housing needs of the community. Numerous conferences with assistants in that agency have been held, to the end that better housing arrangements are under way. Many conferences were held with representatives of the Office of Defense Health and Welfare Services both in the field and at headquarters. Copies of the Women's Bureau community-survey reports have been sent at their request to each of their regional directors, and every effort has been made to bring about the necessary changes in eating and recreational facilities.

As an example of results obtained, action is now being taken to provide recreational leadership and facilities for Elkton, Md., a community in which nothing had been provided for women even though their influx for work in two munition plants called for building of dormitories. In addition to the foregoing, crowded industrial areas in Connecticut to which women are migrating also have been studied. Recommendations as to housing and recreation needs will be forwarded to the proper administrative agency.

Requests from many communities made it evident that administrative agencies needed a statement of guiding principles. The Women's Bureau responded with the preparation of a small bulletin outlining the best acceptable standards for the housing, transportation, and recreation of woman war workers. In connection with the housing of woman war workers, for example, the Women's Bureau, following its investigations of communities and its conferences with other authorities in this field, recommends the following:

> All types of housing for woman war workers should conform to standards essential for safety, security, health, decency, adequacy, privacy, cleanliness, and comfort.
>
> Living quarters should be conveniently located in regard to workplaces and recreation facilities, and be in pleasant surroundings.
>
> Room rent should not exceed 20 percent of a woman's income.
>
> Safeguards should be set up in every community to control rents and to prevent other dangers from hit-or-miss room finding.
>
> Single rooms are preferable, or double rooms with not more than two women, each with her own bed.

Rooms (whether in private homes, boarding or lodging houses, dormitories, etc.) should be adequately furnished (including a closet with lock or a locker preferably for each occupant) and should be properly heated, ventilated, and lighted.

Bathing facilities and toilets should be modern and in good repair, arranged to give necessary privacy, conveniently located and sufficient in number (in the ratio of a modern bath, or shower, and toilet for every 5 to 7 persons; a washbasin to every 4, unless there is running water in the bedroom, then 1 for every 7).

A place on the premises for entertaining guests outside the bedroom should be available.

Eating facilities of proper kind should be conveniently located, with satisfactory inexpensive meals.

Especially for rural areas, the Bureau recommends the cooperation of local women's groups in making available satisfactory living places, and, in cases where the need develops, improved types of housing projects for women. Especially for large cities, the Bureau recommends that an organized room-registration service of a satisfactory type be created and that, where necessary, special dormitories for women be built.

## *Agricultural Woman Workers*

The transfer of vast numbers of agricultural workers to the war industries, as well as the rapid induction of others into the armed forces, has resulted in a growing demand for the employment of women in agricultural work. In the next few years, much of the work of harvesting and picking heretofore performed by migratory labor in the many local communities will have to be carried on by women. Further, women will be needed in increasing numbers not only for their traditional work of packing and canning, but also for nearly all types of regular farm work. On April 1, 1942, there were 1,328,000 woman farm workers in the United States. The anticipated employment of women in large numbers in agriculture creates many new employment problems. In interesting women in such work, the Bureau is cooperating with other Government agencies primarily concerned. In addition, the Bureau performs a function not carried on by any other agency, namely, that of formulating and helping put into practice standards for women's employment. These standards are incorporated in a bulletin entitled "Guides for Wartime Use of Women on Farms."

## *Women's Bureau, A Center of Information on Women's Work*

In a situation changing as rapidly as is the situation with respect to the employment of women, there is need for a center for dynamic technical information and expert advice on the widest variety of subjects connected with women's work—the types of work women do best or can do, the effects of industrial and economic changes on their employment, and the conditions found satisfactory for their continued performance. The Women's Bureau is such a center and has available the records of the most useful experience accumulated through years of knowledge of women's industrial activity.

This also includes close contacts with current and developing situations in Great Britain, Canada, Latin America, and other parts of the world. Bureau representatives have visited Canadian war-implement plants and have become fully acquainted with the part women are playing there in the manufacture, for example, of guns and rifles.

Staff members of the Women's Bureau have conferred personally with the leading advisers and experts on women's work in England, such as Caroline Haslett and Margaret Bondfield; regular exchanges of information between this Bureau and these officials are maintained. In these countries, longer in the war than the United States, many valuable details are being gleaned as to technical woman-power problems that are beginning to face this country.

U. S. GOVERNMENT PRINTING OFFICE: 1943

Women as replacements for men.

It is a striking fact that by June of 1942, the date of survey, more than 1 in every 9 of the factory women for whom data were available were holding jobs ordinarily filled by men. If the largely woman-employing textile and apparel industries are excluded, the ratio become approximately 1 in every 7. Almost half the women in men's occupations are in aircraft engine and propeller firms and electrical plants; yet these two industries are very different in the matter of women's employment. The electrical industry is long established and traditionally woman-employing. It is hiring even more women today and in addition is substituting women for men in many jobs. This is to be expected in an industry that is accustomed to women in productive work, unlike the manufacture of aircraft engines and propellers, a comparatively new venture and known previous to this war as an almost exclusively male-employing enterprise. All women working for the three important aircraft engine and propeller firms surveyed are replacing men. In contrast, only 7 in every 100 women in the electrical plants are substitutes; most of the others are in occupations that have always been women's.

Women are in men's jobs to the extent of well over two-fifths of their total in the chemical and drug plants visited, one-third in the machine and machine-tool factories, and considerably more than a fourth in those making small metal parts. The extensive conversion necessary to change over from civilian production affected considerably the occupational alignment in the ordnance plants surveyed, and in 1942 more than twice as many women were employed on jobs entirely new to the establishment as were on jobs formerly held by men. Industrial conversion accounted also for the fact that, except for aircraft engines and propellers, ordnance showed the smallest proportion of women of all the industries covered in jobs women held before the war.

Table 5.--Distribution of women productive workers according to occupational status, by industry

| Industry | Total number of plants | Total number of women | Women's employment in - | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Pre-war occupations | | Occupations new to plant | | Occupations formerly performed by men only, now performed by men and women. | | |
| | | | Number of plants | Per-cent of women | Number of plants | Per-cent of women | Number of plants | Per-cent of women | Percent women are of total employees in these occupations 1/ |
| All industries 2/ | 93 | 35,187 | 75 | 79.3 | 26 | 5.4 | 67 | 15.3 | 17.5 |
| Aircraft engines and propellers | 3 | 1,450 | - | - | - | - | 3 | 100.0 | 9.1 |
| Ammunition, gun parts, and other ordnance accessories | 11 | 3,387 | 9 | 41.2 | 5 | 41.5 | 7 | 17.4 | 49.1 |
| Chemicals and drugs | 5 | 3,584 | 3 | 54.1 | 1 | 3.9 | 4 | 42.0 | 30.0 |
| Electrical products | 34 | 18,353 | 32 | 91.5 | 10 | 1.9 | 24 | 6.6 | 22.9 |
| Instruments, professional, scientific, and other | 9 | 6,003 | 9 | 88.7 | 1 | .1 | 6 | 11.2 | 18.5 |
| Machines and machine tools | 4 | 510 | 2 | 52.4 | 2 | 14.5 | 3 | 33.1 | 49.7 |
| Metal parts, small | 9 | 1,569 | 6 | 71.5 | 1 | .4 | 8 | 28.1 | 37.4 |
| Plastic products | 3 | 420 | 3 | 96.2 | 3 | 1.7 | 1 | 2.1 | (3/) |
| Rubber products | 4 | 851 | 4 | 85.5 | 1 | .1 | 3 | 14.3 | 63.5 |
| Miscellaneous | 11 | 2,060 | 7 | 75.6 | 2 | 1.3 | 8 | 23.1 | 72.9 |

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1/ Based on reports from 51 of the 67 plants.
2/ Apparel and textile-mill products excluded, as occupations not comparable with those in other selected industries.
3/ Not computed; base too small.

Table 6.--Employment of women in their pre-war occupations, in occupations new to the plant, and in occupations previously performed only by men.

| Occupation | Total number of plants | Total number of women | Women's employment in - | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Pre-war occupations | | Occupations new to plant | | Occupations formerely performed by men only, now performed by men and women | | |
| | | | Number of plants | Per-cent of women | Number of plants | Per-cent of women | Number of plants | Per-cent of women | Percent women are of total employees in these occupations 1/ |
| All occupations | 2/ 98 | 31,145 | 75 | 77.8 | 26 | 5.4 | 67 | 16.8 | 17.8 |
| Assembler | 58 | 11,122 | 42 | 92.1 | 5 | 1.7 | 21 | 6.2 | 25.0 |
| Bench worker, hand | 26 | 552 | 17 | 54.8 | 4 | 13.0 | 11 | 32.2 | 32.6 |
| Bench worker, machine | 33 | 824 | 13 | 56.0 | 6 | 11.8 | 21 | 32.2 | 8.2 |
| Draftsman and tracer | 6 | 17 | 1 | 5.9 | - | - | 5 | 94.1 | 47.4 |
| Drill-press operator | 46 | 1,195 | 17 | 40.5 | 5 | 5.4 | 27 | 54.1 | 17.3 |
| Forelady | 7 | 72 | 5 | 51.4 | - | - | 2 | 48.6 | 77.8 |
| Gear-cutting-machine operator | 2 | 21 | - | - | - | - | 2 | 100.0 | 1.3 |
| Grinding-and-polishing-machine operator, optical glass | 2 | 49 | - | - | - | - | 2 | 100.0 | 31.2 |
| Grinding-machine operator | 15 | 389 | 3 | 8.7 | - | -- | 12 | 91.3 | 9.0 |
| Hand worker, n.e.c. | 46 | 2,378 | 37 | 74.9 | 5 | 15.8 | 18 | 9.3 | 16.2 |
| Inspector | 66 | 5,176 | 48 | 74.0 | 9 | 11.2 | 24 | 14.8 | 25.6 |
| Job setter | 1 | 148 | 1 | 100.0 | - | - | - | - | - |
| Lathe and screw-machine operator | 21 | 428 | 3 | 25.2 | 2 | 4.9 | 16 | 69.9 | 11.0 |
| Machine operator n.e.c., in electrical products | 17 | 1,291 | 14 | 87.4 | 1 | .2 | 8 | 12.4 | 27.3 |
| Machine operator, n.e.c. | 42 | 1,469 | 26 | 78.1 | 5 | 1.8 | 21 | 20.1 | 33.2 |
| Milling-machine operator | 13 | 210 | 3 | 6.7 | 1 | 1.0 | 9 | 92.3 | 11.0 |
| Packer and wrapper | 35 | 1,308 | 25 | 73.8 | 3 | 2.7 | 11 | 23.5 | 42.1 |
| Painter | 17 | 322 | 10 | 63.6 | 2 | 16.5 | 7 | 19.9 | 20.8 |
| Punch- and forming-press operator | 38 | 1,305 | 25 | 68.9 | 2 | 12.2 | 15 | 18.9 | 29.1 |
| Service and maintenance worker | 14 | 348 | 7 | 48.3 | 2 | 1.7 | 7 | 50.0 | 25.1 |
| Solder | 14 | 853 | 12 | 96.2 | 1 | .4 | 2 | 3.4 | 100.0 |
| Storeroom clerk | 9 | 71 | 2 | 4.2 | - | - | 7 | 95.8 | 30.5 |
| Tool-crib attendant | 7 | 58 | - | - | - | - | 7 | 100.0 | 20.5 |
| Welder | 8 | 89 | 7 | 97.8 | - | - | 1 | 2.2 | 33.3 |
| Winder - See Copy | 17 | 1,450 | 17 | 73.6 | 2 | .5 | 7 | 5.9 | 60.2 |

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1/ Based on reports from 51 of the 67 plants.

2/ Details exceed totals, as plants report on more than one occupation. Apparel and textile-mill products excluded, as occupations not comparable with those in other selected industries.

Though the management may be unaccustomed to employing women, and in some cases may have resisted such action, it is interesting that women in the factories visited tended to comprise a very substantial proportion of the personnel in productive occupations that ordinarily are men's domain. Except in airplane engine and propeller manufacture, where the ratio was only 1 woman to 10 men, the ratio was never so low as 2 to 10, and in rubber products reached well over 15 to 10. In machine and machine-tool production and in ordnance manufacture, women were half of the personnel in factory jobs where substitution has been made.

## Women's occupational distribution.

Almost no discernible change had occurred in the occupations of women in textile and apparel manufacture, in which women have for a long time played an important part. For this reason these industries are excluded from further occupational discussion and analysis.

When the specific occupations were examined in which women were being employed as replacements in the other industries, some very interesting facts were brought to light. It became evident, for example, that the new occupations for women varied from factory to factory. Actually there were few types of jobs in which women were being substituted for men in some plants that they were not regularly holding before the war in other plants. Only 4 in a group of about 25 factory occupations in which women were employed at time of survey were not represented among those that women held in one or more establishments before the war. And, likewise, except for the job setters in one large electrical firm, each and every one of the 25 jobs was named somewhere in the sample as one that women were filling for the first time in a specific plant. No women were employed before the war as gear shapers, hobbers, and cutters, optical-glass grinders, automatic-screw-machine operators, and tool-crib attendants in the New Jersey firms visited, and few as storeroom clerks and draftsmen or tracers. These more than any of the others seemed to be truly new jobs for women.

7 Women appeared to be replacing men more rapidly at machines than in any other type of work. Machine operators were less than a fourth of the women in pre-war jobs, but they were half of those who had recently been substituted for men. What is more, women appeared to be making substantial inroads into fields of machine operation different from those to which they had been accustomed. Whereas 3 in 5 of the women in pre-war machine jobs were coil winders or workers on other machines peculiar to the electrical industry, and punch or forming-machine operators, only 1 in 5 of the women substitutes were doing this work. Instead, they were operating drill presses, grinding and milling machines, various bench machines and lathes, in very substantial numbers. Factories making instruments and aircraft engines and propellers alone accounted for well over two-fifths of the women replacements on machines.

After the machine operators, the most important occupational groups from the standpoing of numbers of women in jobs formerly performed by men were assemblers and inspectors. The majority of the assemblers were in electrical firms and the factories making small metal parts. Two aircraft engine and propeller firms alone claimed more than half the substitute inspectors.

Women who were replacing men were still a relatively small proportion of the total workers employed on machines. This is not true, however, of any other occupational group. Women substitutes formed at least a fifth of all the workers in every other job where replacements had been made and in some they accounted for an even greater proportion. For example, they were a fourth of the assemblers, inspectors, and service or maintenance workers, about 3 in 10 of the store-room clerks, well over two-fifths of the packers and wrappers, and all of the solderers where they had recently taken jobs previously held by men.

An important question inevitably arises when the replacing of men with women in factory jobs is discussed: Do the women actually perform the same work as the men before them or has it been necessary to adjust the job in some way? This question was asked of firm officials in the 67 plants surveyed in which women were employed as substitutes. Twenty-seven of the plants, or 2 in every 5, reported no adjustments of any kind in any of the jobs in which women had been hired to replace men, but changes were made in 40 plants. Men were assigned in 18 of the 40 to set up and service the machines that women were taken on to operate. Men did the heavy lifting for the women on some jobs. In describing others, the management claimed in a few instances that women were given the easier, simpler, or light operations to perform. The jigs and dies were modified in one concern and in another a conveyor had been installed. A few firms reported that women did only one operation of a complex job, whereas men performed many.

It is significant that though women had been substituted for men on the drill press in 18 firms, in only 7 was it considered necessary to retain men to set up and service the women's machines. Likewise, in the case of lathes, the women performed their own set-up work in 8 of the 11 plants in which they were replacements for men. No adjustments in the job had been made for the newly employed women gear shapers and hobbers, optical-glass grinders, or automatic-screw-machine operators.

As their activities have changed or expanded, a number of firms have altered or added to the steps in their productive process, thereby developing in many cases an entirely new group of jobs. Nearly a fifth of the firms visited reported having hired women to fill such vacancies, well over half as inspectors, assemblers, or punch and forming-press operators, but many in other machine and hand operations. However, ordnance and electrical plants account for nearly all the openings for women in jobs that were new to the plant; these openings, furthermore, occupied but 5 percent of all the factory women employed.

Table 7.--Pre-war employment status of 439 women war workers

| Pre-war employment status | Women with two years or less of service in present plant | | | | |
|---|---|---|---|---|---|
| | Total | | Productive | | Clerical |
| | Number | Percent | Number | Percent | Number |
| All women | 439 | 100.0 | 416 | 100.0 | 23 |
| Manufacturing, productive worker | 211 | 48.1 | 207 | 49.8 | 4 |
| Other | 201 | 45.8 | 185 | 44.5 | 16 |
| Beautician | 6 | 1.4 | 6 | 1.4 | - |
| Clerical worker | 33 | 7.5 | 18 | 4.3 | 15 |
| Domestic worker | 33 | 7.5 | 33 | 7.9 | - |
| Hotel, laundry, and restaurant worker | 14 | 3.2 | 14 | 3.4 | - |
| Housewife | 87 | 19.8 | 87 | 20.9 | - |
| Salesperson | 15 | 3.4 | 14 | 3.4 | 1 |
| Teacher | 5 | 1.1 | 5 | 1.2 | - |
| Other | 8 | 1.8 | 8 | 1.9 | - |
| No previous job experience | 27 | 6.1 | 24 | 5.7 | 3 |
| Student | 11 | 2.5 | 8 | 1.9 | 3 |
| Other | 16 | 3.6 | 16 | 3.8 | - |

## II. EFFECT ON WOMEN'S EMPLOYMENT OF THE SHIFT FROM PEACETIME TO WARTIME PRODUCTION

### Changes in the number and proportion of women.

Industrial employment in New Jersey has increased by well over one-half (53 percent) since the beginning of 1940. Women account for an estimated two-fifths of the increase, with approximately 115,000 additional workers up to early in 1943. Some industries, such as automobile, apparel, and textile manufacture, lost personnel, while four industry groups - transportation other than automobile but including aircraft, electrical, machinery, and chemical - absorbed nearly nine-tenths of the new workers. All four of these groups are represented in the Women's Bureau sample.

Firms primarily engaged in war work, such as those covered in this survey, would be expected to show more than the average increase in employment. This is actually the case and to a startling degree. With the use of employment figures published in the Industrial Directory of New Jersey of 1940-41, it has been possible to estimate the proportion of increase in employment of women and of men between 1940 and the summer of 1942 in 128 identical plants. Total employment in these plants increased in this period by as much as 88 percent, women's employment alone by more than 100 percent. Most of the increase in women's numbers, as distinct from the percent of increase, occured in communication equipment, instruments, ordnance, aircraft engines and propellers, and apparel, in that order. The rise in total women employed in the communication-equipment industry accounted for two-fifths of the entire increase of women in the sample. Though the numbers involved in chemicals and drugs and in the manufacture of small metal parts are not great, it is nevertheless significant that the percentage increases among the women employed there are exceeded only by that in aircraft engines and propellers. These are, all three, industries in which women have made amazing inroads since 1940. Women grinding- and milling-machine operators; store-room clerks; foreladies; and lathe, drill-press, and bench machine workers, show especially marked proportions of increase. Women assemblers, inspectors, and miscellaneous hand workers on process, however, have made the largest net gain in numbers.

Table 3.--Percent of increase from 1940 to summer of 1942 1/ in numbers employed by 128 identical plants holding war contracts, by industry

| Industry | Number of plants | Percent of increase in numbers employed | | |
|---|---|---|---|---|
| | | Total | Women | Men |
| All industries | 128 | 87.8 | 101.6 | 82.7 |
| Aircraft engines and propellers | 3 | 171.7 | 427.7 | 159.3 |
| Ammunition, gun parts, and other ordnance accessories | 15 | 98.6 | 146.3 | 86.1 |
| Apparel and other fabricated textile products | 22 | 77.9 | 103.1 | 40.9 |
| Chemicals and drugs | 5 | 85.1 | 195.9 | 74.4 |
| Electrical products | 37 | 86.8 | 111.2 | 74.2 |
| Communication equipment | 18 | 107.9 | 114.0 | 102.9 |
| Motors, generators, and other electrical products | 10 | 137.8 | 142.8 | 135.7 |
| Wire and cable | 9 | 13.9 | 36.5 | 11.6 |
| Instruments, professional, scientific, and other | 9 | 100.2 | 146.0 | 82.9 |
| Machines and machine tools | 3 | 61.8 | 55.9 | 62.9 |
| Metal parts, small | 6 | 105.0 | 166.1 | 96.8 |
| Plastic products | 3 | 7.9 | 38.2 | .4 |
| Rubber products | 4 | 30.3 | 72.2 | 24.3 |
| Textile-mill products | 8 | 6.5 | 7.3 | 5.7 |
| Miscellaneous | 13 | 118.9 | 111.7 | 120.9 |

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1/ Figures for 1940 are from the Industrial Directory of New Jersey, 1940-41, compiled by New Jersey Bureau of Statistics and Records, State Department of Labor, Trenton. Figures are for the average number of employees, adults and minors. For numbers in plants in summer of 1942 figures are those secured by Women's Bureau agents from plant officials.

It is significant that 22 of the 137 plants visited are employing women for the first time because of the war emergency. These 22 plants, representing fewer than a dozen industries, alone account for the recent employment of more than 6,000 women in New Jersey.

Though women are making great strides, men continue to predominate in numbers. For example, the men show a net gain in the sample plants more than twice that of women, though their proportion of increase is lower. In aircraft engines and propellers and communication equipment alone, the additional men employed since 1940 number more than the increase in all women together. The percent of gain among the men is greatest in aircraft engines and propellers and in the manufacture of motors, generators, and miscellaneous electrical products.

Table 4.--Proportion of women in 128 identical plants holding war contracts, 1940 and summer of 1942 1/, by industry

| Industry | Number of plants | Percentage of women among total employees | | |
|---|---|---|---|---|
| | | In 1940 | In summer of 1942 | Increase (number of points) |
| All industries | 128 | 27.3 | 29.3 | 2.0 |
| Aircraft engines and propellers | 3 | 4.6 | 8.9 | 4.3 |
| Ammunition, gun parts, and other ordnance accessories | 15 | 20.8 | 25.7 | 4.9 |
| Apparel and other fabricated textile products | 22 | 59.6 | 68.0 | 8.4 |
| Chemicals and drugs | 5 | 8.8 | 14.0 | 5.2 |
| Electrical products | 37 | 34.1 | 38.6 | 4.5 |
| Communication equipment | 18 | 45.0 | 46.3 | 1.3 |
| Motors, generators, and other electrical products | 10 | 29.3 | 29.9 | .6 |
| Wire and cable | 9 | 9.4 | 11.2 | 1.8 |
| Instruments, professional, scientific, and other | 9 | 27.4 | 33.7 | 6.3 |
| Machines and machine tools | 3 | 15.6 | 15.0 | 2/ .6 |
| Metal parts, small | 6 | 11.8 | 15.4 | 3.6 |
| Plastic products | 3 | 19.8 | 25.4 | 5.6 |
| Rubber products | 4 | 12.5 | 16.6 | 4.1 |
| Textile-mill products | 8 | 50.6 | 51.0 | .4 |
| Miscellaneous | 13 | 22.0 | 21.3 | 2/ .7 |

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1/ Figures for 1940 are from Industrial Directory of New Jersey, 1940-41, compiled by New Jersey Bureau of Statistics and Records, State Department of Labor, Trenton. Figures are for the average number of employees, adults and minors. For number in plants in summer of 1942 figures are those secured by Women's Bureau agents from plant officials.

2/ In this case there was a decrease.

In spite of their expanding number, men's proportional importance in the firms visited has been declining; in fact, the ratio of women to total personnel has increased within the last two years in almost every industry group represented. The ration change has been especially marked in the apparel, instrument, plastic, and chemical firms visited. This trend shows direct and effective adjustment to a male labor shortage that is fast becoming acute.

Women as replacements for men.

It is a striking fact that by June of 1942, the date of survey, more than 1 in every 9 of the factory women for whom data were available were holding jobs ordinarily filled by men. If the largely woman-employing textile and apparel industries are excluded, the ratio becomes approximately 1 in every 7. Almost half the women in men's occupations are in aircraft engine and propeller firms and electrical plants; yet these two industries are very different in the matter of women's employment. The electrical industry is long established and traditionally woman-employing. It is hiring even more women today and in addition is substituting women for men in many jobs. This is to be expected in an industry that is accustomed to women in productive work, unlike the manufacture of aircraft engines and propellers, a comparatively new venture and known previous to this war as an almost exclusively male-employing enterprise. All women working for the three important aircraft engine and propeller firms surveyed are replacing men. In contrast, only 7 in every 100 women in the electrical plants are substitutes; most of the others are in occupations that have always been women's.

# Wartime
# REMINDERS
# to
# Women Who Work

—The Paying Guest
—The Paid Hostess

> Life is not so short but that there is always time enough for courtesy
> —Ralph Waldo Emerson

WOMEN'S BUREAU
U. S. DEPARTMENT OF LABOR
WASHINGTON

January 1943

Our Nation now must place tremendous dependence on its women workers in industry, home, and community.

Many women workers in war industries are on exacting jobs new to them. Most frequently they are living on narrow margins for their needs, both in time and in money. They must pay their expenses, buy war bonds, and in most cases support dependents or at least send money home for the needs of their families. They are doing a real patriotic work.

The person who provides living accommodations for the health and comfort of these women workers in war industries is likewise performing a patriotic service.

To help the paid hostess and the paying guest in their services to the country this leaflet of suggestions has been prepared.

# TO THE PAYING GUEST—

When you've paid your advance rent and moved into your new quarters, you become a tenant with certain privileges. But you also become a member of the household, with definite obligations of courtesy and consideration.

Now is a good time to think through some of these obligations.

**Keep Your Room Neat . . . .**

Keep clothing hung up when not in use. It will look better; you will feel better; your household will rate you A–1 for neatness.

Keep hot or wet articles off the furniture. White rings in the finish, and cigarette burns on bedding, rugs, and woodwork are no credit marks for you.

If you have no rack or table for magazines, papers, and books, ask for one; then use it.

Keys—made to use, not to lose. Hang on to yours. Metals and workmen are scarce.

**Use Care in Laundry Work . . . .**

Have a clear agreement with your hostess about laundering personal articles if you "do your own." Then stick to the bargain. Do your wash at the proper time. Remember others must share the hot water.

And about that iron: Leaving it hooked up and flat on the ironing board while you answer the telephone not only burns a hole in the ironing board cover but can ruin the iron. No more irons to be made "for the duration."

**Keep Bathroom Schedule . . . .**

Arrange a definite time for your bath.

Show your efficiency by finishing your bath in the allotted time.

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Leave tub and basin clean for the next user. Keep your own tub brush and cleaning powder in a small box or basket, and take it with you to the bathroom, if necessary.

Your common sense tells you that hair, bobbie pins, and the like, will jam a drain pipe. A clogged drain is another name for trouble. If there is no wastebasket in the bathroom, ask for one.

Squeeze out your wash cloth, shake out towels, and hang up to dry in the place provided. Makes the room sweeter; protects your own skin.

### Telephone With Care . . . .

Be reasonable in your use of the telephone. There's a war on, which can mean emergency calls. Sometimes others must use the telephone.

If you have long-distance calls, pay your bill promptly.

### Save Heat . . . .

Fuel is scarce and expensive in most places. When you open your windows, do shut off the heat in your room, and cover the crack under your door so the rest of the house won't freeze up.

### Plan Ahead for Entertaining . . . .

Have friends in. That's part of living. But others in the house have the same privilege. Be reasonable about when you entertain, and how often. Respect rest hours of your household.

If you expect guests at meals, tell your hostess beforehand, and arrange to pay for them.

### Remember the Other Fellow . . . .

Observe house policies and your own good sense in controlling conversation, using radio, piano, and so forth, at late hours. Respect the rest time of folks who have different work periods from yours.

When you go out for the evening and expect to be late coming in, tell your hostess. That's a protection to you if there is an emergency. It is also a courtesy to her.

Make good any articles you ruin by your carelessness. That includes linens smeared with lipstick.

If you have light-housekeeping privileges, you are one of a lucky few. So use special care to keep rooms clean, food protected, waste disposed of quickly.

Be reasonable in your use of gas, current, and water. Turn off faucets all the way. Wartime demands for these utilities are heavy.

If you smoke, always use an ash tray.

Be on time for meals. If the food is good, tell the hostess; she likes appreciation, too. If the food is not good, tell your hostess privately. Remember, wartime costs and restrictions complicate her food planning.

Your hostess has worries, just as you have. She will have more time to be human if you don't add to her worries. Respect her privacy, as you want her to respect yours. Refrain from discussing personal and family matters. Mail and phone calls are strictly private.

Register with your hostess your name, home address, and where you work. This is important for identification if an emergency occurs.

## TO THE PAID HOSTESS—

Through the service you render in operating an attractive guest home, you are helping the war effort. You can do a lot to stop costly employee turn-over on war jobs. Many persons leave vital work because they cannot find a good place to live. Also, you will give a lift to the spirit that makes for better work at the desk and on the assembly line.

When you receive rent money for your rooms, your home becomes, to an extent, the home of the paying guests. They depend much on your place for relaxation and wholesome social life.

Here are some traits of a desirable hostess as pointed out by girl guests. How do you rate yourself on these items?

### She Is a Good Housekeeper . . . .

Keeps a clean house; changes bed linens once, towels twice, a week.

Keeps bathrooms in good working order. Provides tub brush and cleaning powder for bathtub.

Takes pride in checking 100 percent on all local health, safety, and sanitation requirements.

Has simple, attractive, comfortable house furnishings, and keeps them in good condition.

Sees that every bedroom and bath has keys that fit.

### She Cares for Needs of Guests . . . .

Shows genuine interest in contributing to the welfare and comfort of her guests—not simply in taking their cash. Makes her house homelike and attractive; likes to have her guests enjoy being at her home.

Even with scarcity of fuel, tries to furnish necessary heat and hot water to meet health requirements of guests.

Supplies portable lamps with light bulbs of sufficient power for comfortable reading, sewing, and so forth.

Provides enough blankets for comfort on cold nights.

Supplies at all times plenty of cool, pure drinking water.

Permits reasonable use of living room by guests and encourages a normal social life among them. Likes them to have guests; allows them to arrange for parties, use kitchen for refreshments, and so forth.

Understands that girls do need to wash clothing and provides racks for drying the "wash," if possible. Wants her guests to be well-groomed—they're her best press notice.

If meals are provided, sees that they are nourishing, well cooked, and served on time.

### She Is Businesslike With Guests . . . .

Makes clear in the beginning what rates will be charged and what services will be rendered, particularly how many other persons will occupy the room. Never takes advantage of her guests by changing rules at will after an understanding has been reached.

Gives receipts for rents paid. Arranges rent days with guests' pay days.

Has clear understanding in the beginning with guests about (1) visitors and charges for them; (2) service of meals during slight illness or disability; (3) whether refunds can be al-in taking their cash. Makes her house homelike and attractive; likes to have her guests enjoy being at her home.

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Has clear understanding in the beginning with guests about (1) visitors and charges for them; (2) service of meals during slight illness or disability; (3) whether refunds can be allowed for absences from meals; (4) what notice is required of the guest on leaving.

Gives each new guest a copy of the house regulations for use of household equipment (irons, ironing-boards, laundry tubs or basins, telephone, piano, radio, and so forth), and the rates charged, if any.

Respects personal rights of guests. Does not interfere with their private business, telephone calls, or mail. Offers advice only if requested.

Is business-like, courteous, firm. If a guest shows disregard for the rights of other guests, takes prompt action to correct the situation. A kindly private talk with the offender will usually lead a reasonable person to be more thoughtful of others in the house. If this fails, perhaps a "grievance committee" of guests can be persuasive.

*For further information write to—*

WOMAN'S BUREAU
U. S. DEPARTMENT OF LABOR
Washington, D. C.

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For sale by the Superintendent of Documents
Washington, D. C.
Price 5 cents

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# on
# THE VICTORY LINE?

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**American women now are indispensable for Victory; 12,000 men a day go into the armed services; 18- and 19-year-olds are off to war. To give them the equipment they must have, MORE WOMEN are needed on the labor front this year. How can I, a housewife, help?**

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U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU

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Leaflet No. 1
April 1943

# WHAT JOB IS MINE ON THE VICTORY LINE?

What can *I* do in a war plant? I've never worked before. I've kept house all my life, says many a housewife.

Of what use in winning a war is my experience? asks many a woman commercial artist, household worker, beauty-parlor operator, sales clerk, or jewelry worker.

## YOU'D BE SURPRISED!

If only you could see what women are doing with the skills they use at home, or in their hobbies, or in a peacetime job, to make the weapons of war for our boys overseas!

Women are at work on bombs, guns, airplanes, tanks, ships, submarines, parachutes, rubber rafts, jeeps, trucks, and ambulances, on radios, bullets, shells, and cannon. In all kinds of jobs from the painstaking task of making tiny time fuses to the exacting job of operating huge electric cranes, women are proving their mettle and merit.

From coast to coast, from Canada to Mexico, women are amazing factory executives and workmen who are old hands on skilled machine jobs. Women are even surprising themselves. However tired they may be at the end of the day, they find satisfaction in doing a hard war job they never dreamed they could do.

IF OTHER WOMEN can learn quickly A NEW USE for the skill they've had at home, or at work, SO CAN YOU. If you love doing things with your hands, if you have a mechanical turn of mind, YOU TOO CAN DO A WAR JOB.

### On the Production and Assembly Line:

If you've sewed on buttons, or made buttonholes, on a machine,
  You can learn to do spot welding on airplane parts.

If you've made garments on an electric sewing machine,
  You can learn to make parachutes or fabric covering for airplane wings, or uniforms for soldiers, sailors, or marines.

If you've done fine embroidery, or made jewelry,
  You can learn to do assembly on time fuses, radio tubes, or control instruments for airplanes or submarines.

If you've used an electric mixer in your kitchen,
  You can learn to run a drill press.

If you've been a manicurist,
  You can learn to do hand filing of rough edges off metal parts.

If you've polished silver on an electric buffing wheel,
  You can learn to do burring.

If you've made plaster-of-paris plaques and figures,
  You can learn to do core making.

If you've sprayed plants in the garden,
  You can learn to do spray painting of parts for bombers or army trucks.

If you've majored in physics or chemistry, no matter how long ago,
  You can learn to work in the chemical laboratory of a munitions plant, or do heat-treating of metal, or test munitions parts with gages or other measuring devices.

If you've followed recipes exactly in making cake,
  You can learn to load shells.

If you've washed pots and pans,
  You can learn to degrease metal parts for assembly.

If you've washed windows,
  You can learn to polish the nose of a bomber before final inspection.

If you've used a screw driver at home,
  You can learn to use one in a war factory.

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You can learn to use one in a war factory.

If you've taken household gadgets apart and put them together again,
You can learn to assemble small parts for tanks, submarines, or airplanes.
If you're mechanically inclined,
You can learn to run a lathe, milling machine, or other machines that women are operating.

## On Inspection:

If you've been a good housekeeper, spotting every speck of dust,
You can learn to be a good inspector of war equipment.
If you've picked over and sorted dried beans or berries,
You can learn to inspect and sort small munitions parts.
If you've packed your husband's suitcase,
You can learn to inspect and pack parachutes.

## On Servicing Production and Plant:

If you've ever done commercial drawing,
You can learn to do drafting.
If you've cut and made your own dresses,
You can learn to trace patterns for battleships.
If you've ironed your sheets in an electric mangle,
You can learn to run a blueprint machine.
If you've ever kept accounts at home or in business,
You can learn to keep plant production records.
If you've wheeled a baby carriage,
You can push bins of supplies.
If you've driven a car,
You can drive a small factory truck or jitney and trailer.
If you've been a store clerk, or had charge of a table at a church fair or charity bazar,
You can learn to work in the tool crib or the storeroom.

If you've been a Girl Scout leader,
You can learn to be a factory counselor, or adviser, to girls on the job.

**On Plant Maintenance:**

If you've replaced blown-out fuses in your home, or repaired your electric toaster,
You can learn to be an electrician's helper.
If you've hung your own curtain rods and repaired your own window screens,
You can learn to be a carpenter's helper.
If you've swept and dusted,
You can help with the factory housekeeping.
If you've prepared meals for your family,
You can help in the factory cafeteria, or with the portable canteens.

## ARE YOU READY?

American women, more used to mechanical gadgets in their homes than any other women in the world, are fortunate in having experience to help them make a record as soldiers of production in war work.

So, if you live in a labor-shortage area, are over 18 years of age, and have no young children,

You Can Help On the Victory Production Line. Even if you can work only part time, as one of a pair who take turns, or daily in the peak hours, You Can Help.

Your local U. S. Employment Service—
Will tell you how to use your past experience,
Will help to place you in a job,
Will refer you to a training school to learn free:
What the tools are called and the right way to hold them,
How to read a blueprint and how to run a machine,
How to be safe on the job,
What to wear for safety at work,
How to work with the boss.

Free courses give vocational training for war jobs to boys and girls just through school, to men and women who've never seen the inside of a factory, and to college graduates. This training bridges the gap between home and factory, because you get used to the noise and the feel of steel. Under conditions resembling an industrial plant you gain confidence that you can do a war job. At the school you get ready. At the factory you move up to your job on the Victory Line.

The armed services, industry, and State and Government officials cooperate with the Women's Bureau of the U. S. Department of Labor in maintaining standards promoting the efficiency, health, and safety of women workers.

It is serious business making what our boys must have for Victory.

It means being on the job every day in fair weather or foul.

It means putting your best into everything you do.

IT MEANS STICKING IT OUT ON THE VICTORY LINE.

520550° U. S. GOVERNMENT PRINTING OFFICE: 1943

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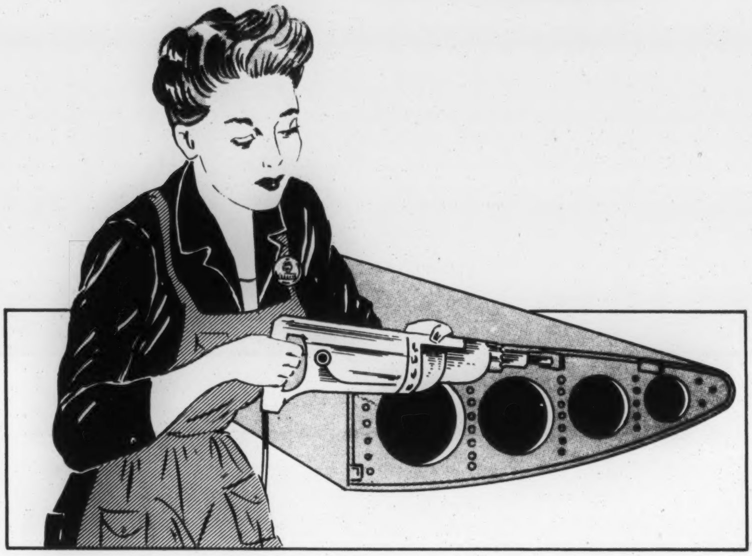
# *Employment of Women in*
# WAR WORK



*May 1943*

*Prepared by*
**WAR PRODUCTION BOARD**
**Statistics Division**
**Facilities Utilization Section**

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# EMPLOYMENT OF WOMEN IN WAR WORK

With increasing tightness in the labor market, production of munition items is depending more and more upon employment of women as factory wage earners. Even plants producing heavy items of combat materiel, such as tanks or large artillery pieces, are employing increasing numbers of women and, to a large extent, placing them in types of work customarily done by men. An analysis of employment in 329 representative plants in 10 first-line war industries shows that the percentage increase in the number of women employed in these plants was more than 12 times the accompanying percentage rise in the number of men in each industry during the year ending March 1943. 1/ Since the first of 1943, the rise in number of women employed has been much less rapid and employment of men has tended to level off and, in several of the industries, even to decline.

The percentage that women comprised of the labor forces of munition plants increased steadily from the relatively low ratios prevailing in March 1942. By March 1943, women held more than 10 percent of all the factory jobs in each of the 10 industries except tanks and shipbuilding and more than a third of the jobs in airframe, ammunition, and fire control equipment plants. Variation in the percentage of women among the 10 war industries reflects, to some extent, the nature of the product being manufactured since relatively few women have been taken on in plants producing heavier items.

Possibilities of meeting labor shortages through greater employment of women is indicated by the variation in the ratios prevailing among plants producing a similar type of product. For instance, the women-employment ratio currently ranges from 0 to 75 percent among reporting artillery ammunition plants. Throughout the past year shifts toward greater utilization of women were accomplished both by increasing the percentages of women in plants already employing some women and through a change in policy as to hiring of women. There are now markedly fewer plants with no women engaged as factory hands than there were early in 1942.

Size of plant appears to have some relationship to the percentage of women employed, as the large plants, which may be better able to provide the necessary facilities, tend to employ

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1/ The analysis was based upon data from shipyards and representative plants primarily engaged in the production of combat materiel and reporting employment of women wage earners on Form WPB-732 or on the Aeronautical Monthly Progress Report for each of the five successive quarters ending March 1943. The 10 industries covered and the number of identical plants included in the sample of each are shown in Table 1. Total employment in these plants in March 1943 amounted to 1,337,000 wage earners. The data presented apply to wage earners only and do not include clerical workers or other non-production employees.

higher percentages of women than the smaller ones. Women-employment ratios also tend to be associated with hours of plant utilization; higher percentages are more generally found in the better utilized plants and lower percentages in more poorly utilized plants. Extension of the employment-of-women practices now found in the plants with the higher percentages to other plants in an industry will depend in large part upon a more general acceptance of women in industry, on the part of employers and of the communities in which they live, and upon the consequent development of programs which will enable women to take work outside of the home.

## Trend In Employment Of Women

In each of the 10 groups of munitions plants included in this study the percentage of women employed has risen steadily during the year ending March 1943, as may be seen in Chart 1. The most conspicuous gain occurred in the three aircraft product groups; in airframe plants, for example, the proportion of women employed rose from 5 percent in March 1942 to 37 percent in March 1943. Ordnance plants, while using increasingly larger numbers of women, did not show as great a change in the ratio; thus, in small arms ammunition plants women comprised 46 percent of total wage earners in March 1943 as compared with 34 a year earlier; in artillery ammunition, 35 percent as compared with 19 percent; in fire control equipment, 36 and 15 percent; in small arms plants, 25 and 13 percent, respectively. In the production of heavier products the proportions are much lower, but a year-to-year comparison indicates that substantial number of women are currently employed in these industries whereas a year earlier the employment of women was negligible. By March 1943, women represented about 13 percent of the workers in plants producing artillery items (guns of 20-mm and over), 7 percent in tank and combat vehicle factories, and 5 percent in shipyards. Quarterly percentages for the 10 industries are presented in Table 1.

The rise in the proportion of women in munitions plants is chiefly attributable to their increasing predominance among the workers placed in new jobs created by expansion of operations. For instance, in the rapidly expanding airframe plants, women accounted for 80 percent of the year's net increase in total employment, and for practically the entire net increase during the last two quarters.

The increasingly greater contribution made by women than by men to the employment expansion in war industries is apparent from the divergence in the trend lines shown on Chart 2. In each instance total employment rose in general throughout the year but the percentage gain in the employment of women was much more pronounced than in that of men. The large relative increase in the number of women employed in shipyards and in tank plants in part reflects the small number on which the indexes were based inasmuch as very few women were working in these industries even in September 1942.

Not entirely, however, are the increasing proportions of women the result of their assignment to new jobs arising from the upward trend of production. In addition to accounting for a large part (sometimes practically all) of the workers added in expanding plants, women are replacing men in many plants. Illustrative is an anti-aircraft gun plant in which the number of women at work increased by 102 during the first quarter of 1943 while the total number employed rose only 20. Thus, women in effect not only filled the new jobs created in the plant but replaced 82 men. Such situations explain the percentages in excess of 100 on Table 3 which shows the percentages that women accounted for of the net gain in total workers by industry for each quarter of the year covered.

The timing of increases in employment of women is tied up with the incidence of labor shortages that made it difficult to obtain an adequate working force from the usual sources. For example, early in the year very few women were working in shipyards, although employment in the yards had been increasing rapidly. The number of yard workers continued to rise during the spring and summer of 1942 but employment of women relative to total was still negligible in September. The requirements for labor were continually expanding, however, and in the late months of 1942 yards began to hire women to such an extent that two-fifths of the employment expansion was achieved through the placement of women in the yards. By March 1943, women accounted for about 5 percent of the yard workers.

Airplane factories, which were continually taking on large numbers of workers throughout the year, started the period with a somewhat higher level of female employment than did shipyards. As in shipyards, however, the women's employment ratios rose most sharply when labor shortages became acute, during the last half (and particularly the last quarter) of 1942.

In ordnance plants, the major expansion in total employment occurred prior to March 1942 and the rise during the ensuing year was relatively slight. Substantial numbers of women were already working in these industries in March 1942 (except in tank plants for which the pattern was similar to shipyards) and the relative increase in employment of women during the year was also much less pronounced than in aircraft. The ordnance plants in most cases were new plants planned for employment of women or converted plants in which plant labor forces were already on the job, so that employment policies had been established at the time production of munitions was undertaken.

## Types Of Work Being Done By Women

Studies made of kinds of work which women do in plants reveal the wide diversity of their occupations including assignments to tasks formerly considered inappropriate for them. 2/ Some of these jobs have required a large amount of training and others only a limited amount. In aircraft assembly plants, women are engaged in most of the production processes that are involved in the fabrication and assembly of an airplane. For instance, they work as operators of drill presses, milling machines, turret lathes, and grinding machines. They do riveting, winding, and cable splicing. They make fabric coverings for control services. To a less extent, they are working on the major fuselage and wing and final assembly lines.

In small arms ammunition plants, which employ women more generally than do the other product groups studied, women are engaged in trimming bullet jackets, operating automatic screw machines, trimming and tapering cartridge cases, inserting primers, and operating loading machines. Even in shipyards where the employment of women has so far been small relative to total, women are serving in a variety of capacities. In most of the yards employing women, they work as welders, burners, sheet metal workers, electrician helpers, and operators of drill presses and grinders. In a few yards they are also employed in many other occupations, including blacksmith helpers, assemblers, boilermaker helpers, electricians, layout workers, painters, pipefitter helpers, and operators of buffers, bending machines, screw machines, shapers, and threaders.

## Variation Among Plants

Employment of women as factory workers has not been accepted uniformly among producers of any particular item of combat materiel. For example, out of 33 artillery plants, there were 4 which still employed no women in March 1943, even though in 7 others women comprised more than a fourth of the plant force. The final distribution can hardly be estimated at this time, however, since a substantial amount of shifting is taking place in the percent of women wage earners in individual plants.

Numerous plants which employed no women in production departments in March 1942 were employing women a year later. Table 4 shows the extent of this shift in each of the surveyed product groups except propeller plants for which data on the same basis are not available. These shifts are illustrated for six of the industries in Chart 3. In most airframe plants, women represented less than 10 percent of the total wage earners in March 1942. By March 1943, however, the bulk of the plants had increased their employment of women

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2/ Employment Security Review, December 1942; United States Department of Labor: Women's Bureau Bulletins No. 189-2, 192-1, 192-2 and 194; Bureau of Labor Statistics, Employment of Women in Shipyards.

to the extent that they had placed women in more than 25 percent of their factory jobs. Further, four airframe plants had no women in their plant force in March 1942 but by September all were employing women and by March 1943, the proportion of jobs held by women in the four plants had risen to 33, 35, 39, and 43 percent.

Also outstanding has been the change in policy among tank producers as to employment of women. In March 1942, only two out of 17 plants employed any women but a year later all but one in the group were employing women.

Similar shifts toward higher percentages occurred in the other product groups, as shown in other sections of Chart 3. From these charts it is apparent that increased employment of women in war industries is due in part to changes in the composition of labor forces in individual plants and not merely to proportionate hiring of additional women in expanding plants. The higher proportion of women employed in some plants than in others producing similar products gives evidence of possibilities of further increasing war production through employing more women.

## Employment Of Women In All Metal Products Industries [3]

Metal products factories other than those specifically designated as war plants are also depending more and more on womanpower for maintenance of expansion of factory operations. In some areas women are being urged to accept employment in less essential industries in order to release men for work in war industries as well as for the armed services. By March 1943 the number of women employed in the entire group of plants classified in the metal products industries in the 1939 Census of Manufactures had increased more than fourfold since 1939, rising from 304,000 to 1,303,000. These industries include all producers of civilian-type metal products as well as manufacturers primarily engaged in production of combat materiel. Chart 4 compares the 1939 level with recent trends in the employment of both men and women in all metal products plants.

In March 1943, women represented 22 percent of the workers in metal products industries as compared with 13 percent in 1939. All of the gain in this proportion has occurred since early fall of 1942; in September the percent of women employed was practically the same as that prevailing in October 1939, as may be seen in Table 7. Failure of the average to rise is chiefly accounted for by the increasing weight in the total given to the more rapid expansion of industries normally employing few or no women, such as machinery industries, railroad equipment industries, and, particularly, the shipbuilding industry. Prior to the fall of 1942, expansion of these industries was accomplished largely through reemployment of men from the unemployed group or through transfers from other industries. However, in most of the individual metal-working industries (based on classification of plants according to principal product in 1939), the proportion of women to total wage earners increased during this period, even though the over-all average was held constant by these rapid increases in key industries.

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[3] Excluding primary material producers.

The lower percentages of women employed in the more rapidly expanding heavy equipment industries are reflected in Chart 5, which shows for 31 major metal products industries, grouped by type of product, the percentage distribution of plants as to the relative number of women employed in November 1942. The majority of the plants in the machinery and railroad equipment industries employed no women at that time, whereas, in the electrical apparatus industries and some of the office and service equipment group, relatively few plants had no women employed as factory workers.

More recent distributions similar to those shown on Chart 5 are not available. Other data, however, indicate that increases in the ratios of women employed in metal products manufacturing plants characterized even more of the individual industries in the recent period (October 1942 to March 1943) than in the previous three years. In 95 out of 100 industries for which employment data are presented in Table 8, the proportion increased and in 10 of these the ratio increased by at least 10 points. A rough indication of the extent of the shifts during the three years from October 1939 to October 1942 and during the subsequent 5 months is revealed by a comparison of the following distributions: 4/

| Women as percent of total wage earners | Number Of Industries | | |
|---|---|---|---|
| | October 1939 | October 1942 | March 1943 |
| 10 or less | 56 | 37 | 31 |
| 11 - 25 | 23 | 30 | 22 |
| 26 - 50 | 17 | 27 | 38 |
| 51 - 100 | 4 | 6 | 9 |

In presenting these differences and those shown in Table 8, attention should be called to the fact that classification of plants by their normal peacetime product rather than by their current activity, although permitting comparison with a prewar period, results in a

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4/ 1939 data are from the Census of Manufactures and 1942 and 1943 data from Form WPB-732 tabulations. Plants currently reporting accounted for about 75 percent of the wage earners covered by the 1939 Census.

grouping together of plants with different kinds of current operation. In some of the industries, grouped thus, there is very little production currently of the product which in 1939 characterized the industry. In particular, this is true of some consumer durable goods industries which have been restricted by WPB limitation orders. Such industries have gone almost completely (usually with the exception of manufacture of repair parts of their usual product) into production of combat materiel, or have shifted partly to combat materiel and partly to non-restricted civilian products similar to their normal product. On the other hand, many of the machinery industries have converted very little to new types of production.

## Relation of Women-Employment Ratios To Other Factors

Factors such as size of plant, plant utilization, trend of employment, and extent of conversion, might be expected to be associated with the proportions of women employed and help to explain differences found among plants in similar types of production.

Some tendency for large plants to employ larger proportions of women is apparent in most product groups and is shown for four groups in Chart 6. Data for the other six munitions groups are not suitable for similar presentation but, except for tank and combat vehicle plants, reflect the same tendencies. Large plants are usually better able than small ones to provide the added facilities required when a change to a policy of hiring women is made. In general, few of the large plants are among those employing the lowest percentages of women.

On the other hand, although practically all of the plants employing very few or no women are medium-sized or small, some small plants show ratios among the highest in the product group. For example, the 6 artillery ammunition plants that were employing no women in March were all small, yet 14 of the 20 plants that reported highest women ratios (over 50 percent of the wage earners) likewise were employing less than 500 workers on largest shift. Also illustrative of the likelihood of finding small plants with as large a percentage of women as large plants is the small arms group. Two plants of this type had over 40 percent women wage earners in March 1943; one employed only 120 workers and the other employed nearly 16,000 workers.

These characteristics hold true, but are less pronounced in the other product groups except tanks and combat vehicles. In this case the majority of the plants with very few or no women are large and most of the plants with the highest proportions of women are small. These large plants with few or no women were in most cases formerly producers of locomotives who normally do not employ women, whereas the small plants employing the most women are chiefly producing tank parts and do not assemble them.

Higher percentages of women employment are generally found in the better utilized munitions plants. Chart 7 shows for four war industries the relation between the relative number of women employed and the number of hours the plants were in operation in March 1943. A definite relationship is reflected in three industries but no association of these factors is apparent among artillery plants.

Examination of individual plant data reveal that in most of the industries, there is greater likelihood of finding high percentages of women among the three-shift plants than among the one- or two-shift plants. Some plants with relatively high proportions of women at work, however, are operating below the average hours of plant utilization for that product group and conversely, many plants with relatively low proportions of women are operating at the highest levels of plant utilization.

The relationship between the relative number of women employed and plant utilization was less apparent in the earlier quarters of the year covered. The earlier data, however, gave some indication of a tendency in many metal products industries for the plants which had highest percentages of women not to be those best utilized. Opposition to the employment of women on the night shifts (either as a matter of personal preference, on the part of the management or of the women themselves, or in the form of regulatory laws), which probably prevented fuller plant utilization in 1942, apparently has less of a deterrent effect currently. Other factors than employment of women, however, are no doubt much more influential in determining plant utilization. For instance, the relationship between the size of plant and the extent of plant utilization has been much more direct; in general, the larger plants are found to be utilizing their facilities more fully than smaller plants.

Rate of growth or even direction of trend in employment appear not to be consistently associated with percentages of women employed. Some of the most rapidly expanding plants have high ratios of women whereas others do not. Of three shipyards, for instance, that increased employment more than thirtyfold during the year, one had a high percent of women (10.6) in March 1943, whereas the other two took on no women. Also, stable and even declining employment was evidenced among plants with the most women as well as those with few. The effect of conversion from a peace-time product to production of combat materiel is also indefinite. Illustrative of this are sewing machine and dictaphone plants which, while converting to production of fire control equipment, had about the same percentages of women at the various periods as did plants which were primarily engaged in fire control equipment production at the beginning of the year.

The steadily increasing numbers of women working in war plants, the rising ratios of women to total wage earners, and the continued increase in the number of plants employing women, all indicate that much has been accomplished in the utilization of women in war production. Yet the wide variation in the employment of women wage earners among plants engaged in the same type of production and the negligible proportions of women still prevailing in some product groups give evidence of the possibilities of further use of women in the production of combat materiel.

The potential labor reserve of women has been estimated by the Bureau of the Census to have been about 4,500,000 at the end of 1942. This would go a long way towards providing for the estimated additional manpower requirements of 1943. Further expansion of employment of women in plants producing combat materiel depends upon the extension of recruitment, training, and placement programs, and upon wider acceptance of women factory workers on the part of employers, labor unions, and civic groups. Employment of women who have family responsibilities will also depend upon an adjustment of work and living conditions in their communities (such as part-time work, feeding and shopping arrangements, and the establishment of child care centers) that will enable the women to continue to manage their homes while working in war plants.

WAR PRODUCTION BOARD
Statistics Division
Facilities Utilization Section
May 1943

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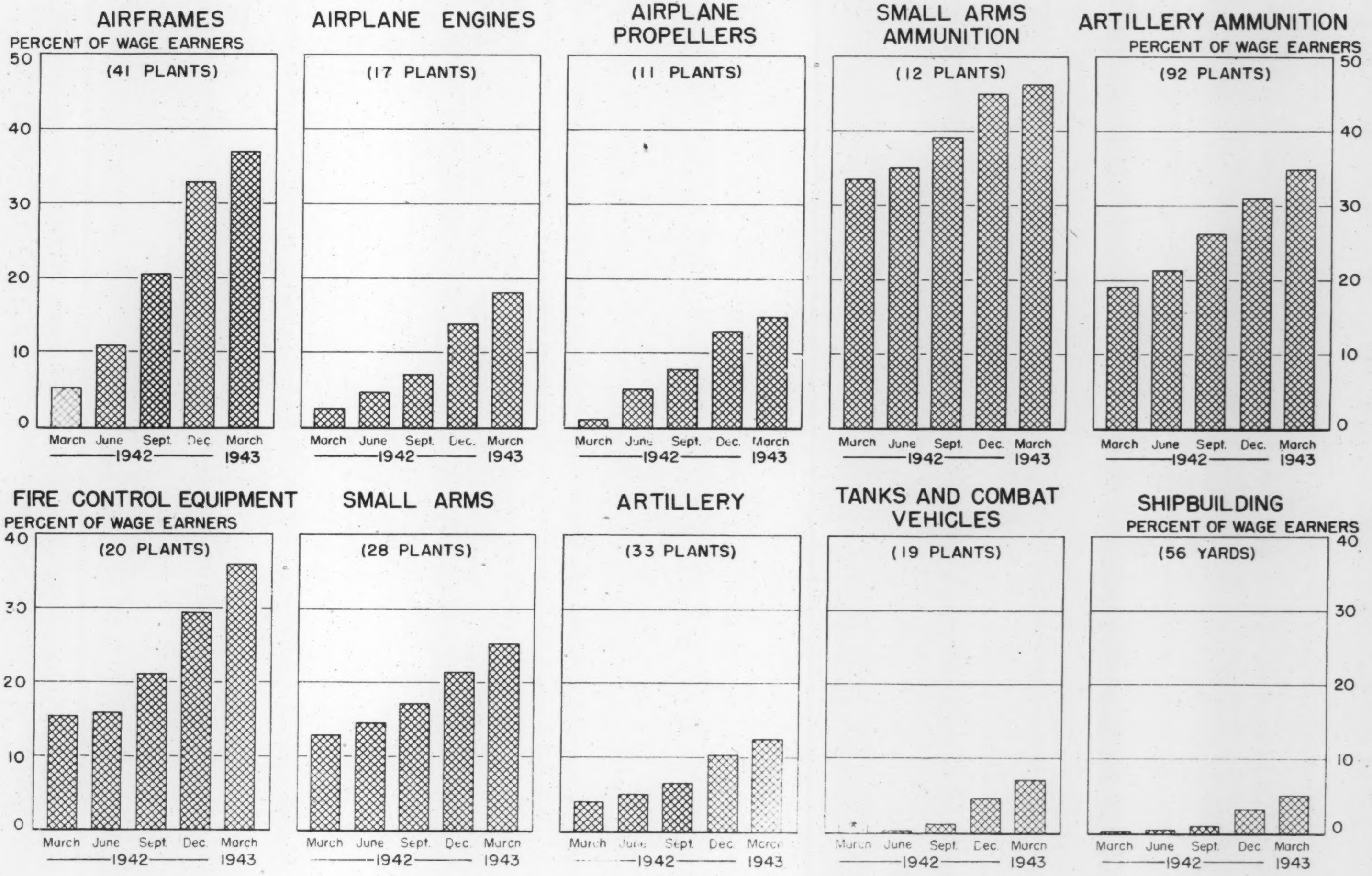
CHART I

## WOMEN AS PERCENTAGE OF TOTAL WAGE EARNERS IN 10 WAR INDUSTRIES

QUARTERLY, MARCH 1942—MARCH 1943



* Less than 0.05 percent.

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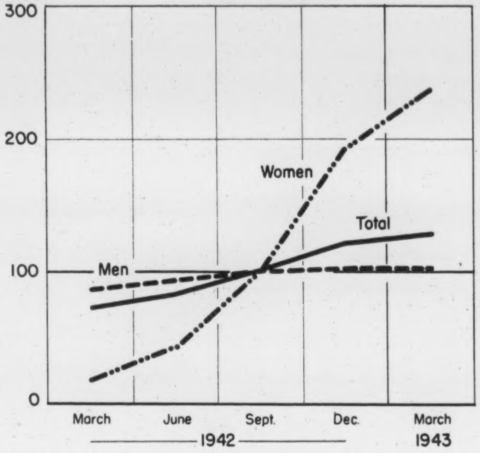
CHART 2

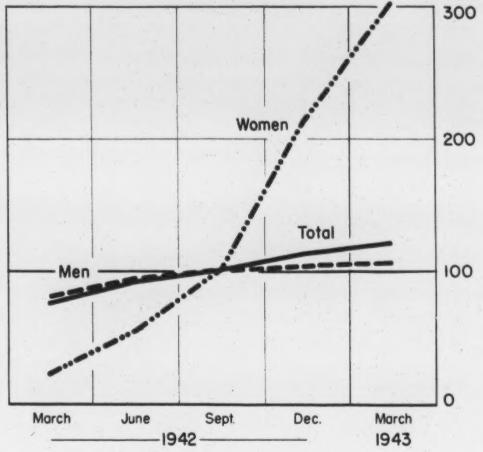
# INDEXES OF EMPLOYMENT IN 10 WAR INDUSTRIES

(September 1942 = 100)

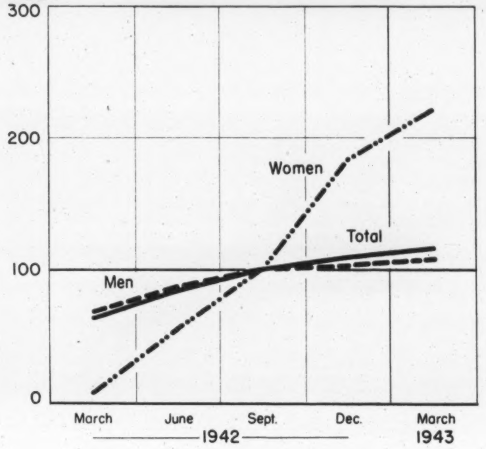
## AIRFRAMES



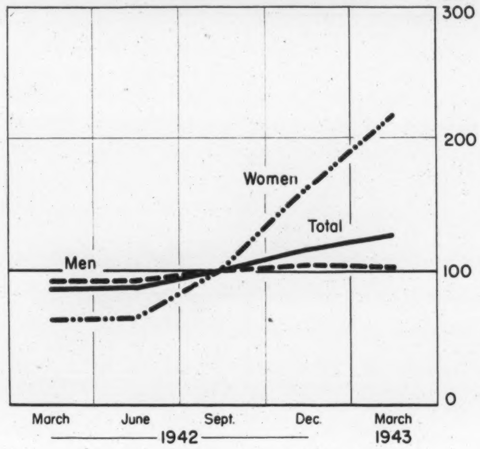
## AIRPLANE ENGINES



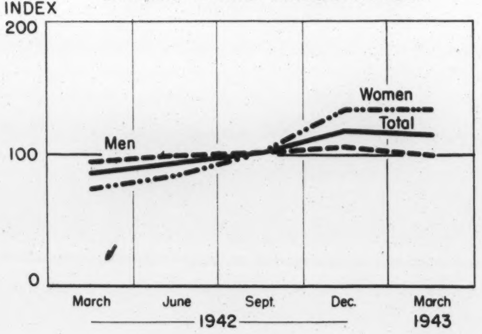
## AIRPLANE PROPELLERS



## FIRE CONTROL EQUIPMENT



## SMALL ARMS AMMUNITION



## ARTILLERY AMMUNITION

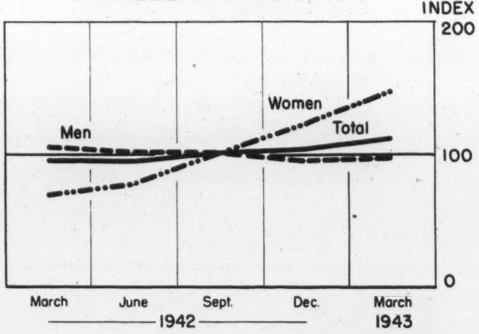


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CHART 2 *(Concluded)*

## INDEXES OF EMPLOYMENT IN 10 WAR INDUSTRIES

(September 1942=100)

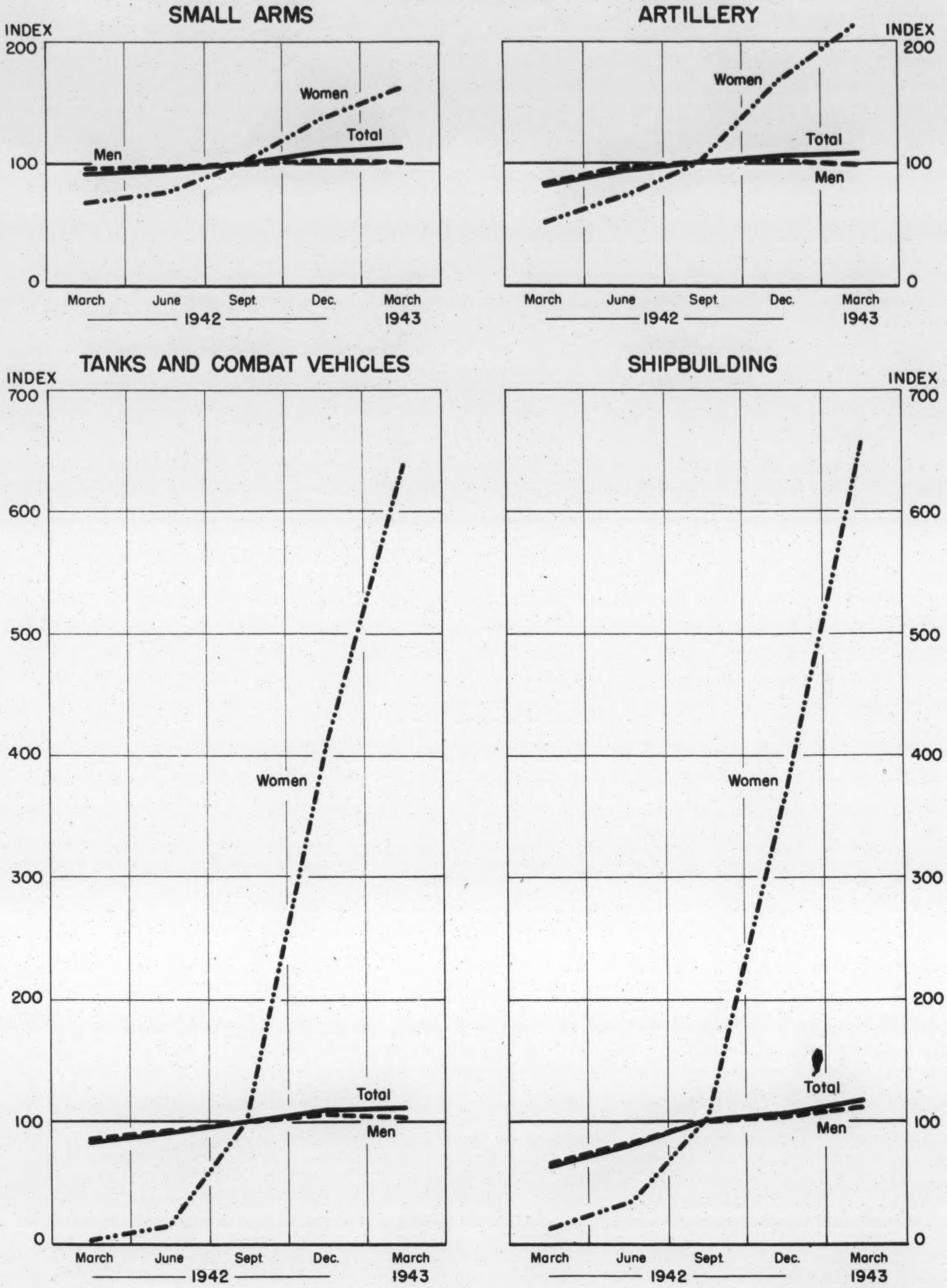

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CHART 3

# SHIFT IN DISTRIBUTION OF PLANTS CLASSIFIED BY PERCENT OF WOMEN EMPLOYED

MARCH AND SEPTEMBER 1942 AND MARCH 1943

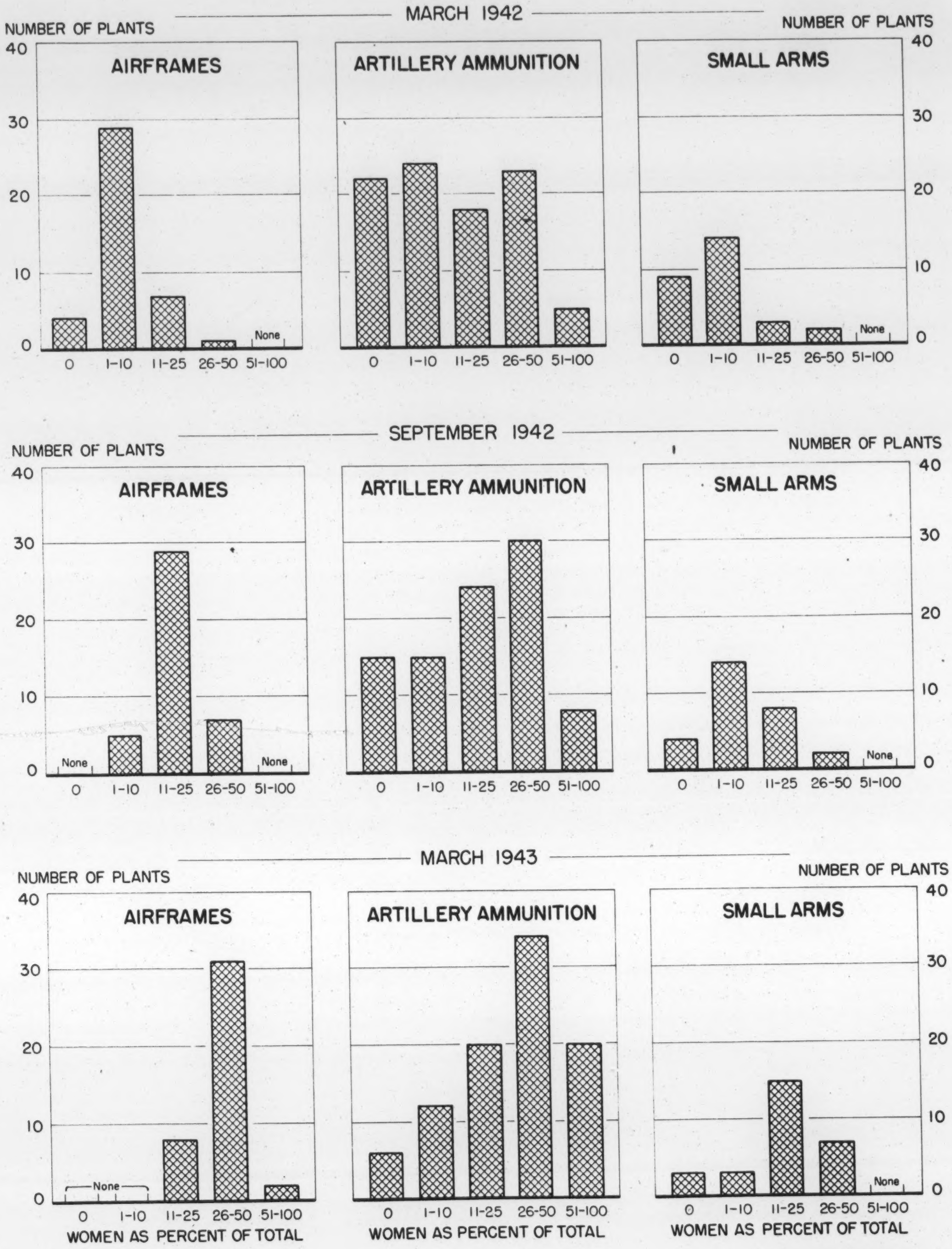

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CHART 3-*(Concluded)*

# SHIFT IN DISTRIBUTION OF PLANTS CLASSIFIED BY PERCENT OF WOMEN EMPLOYED

## MARCH AND SEPTEMBER 1942 AND MARCH 1943

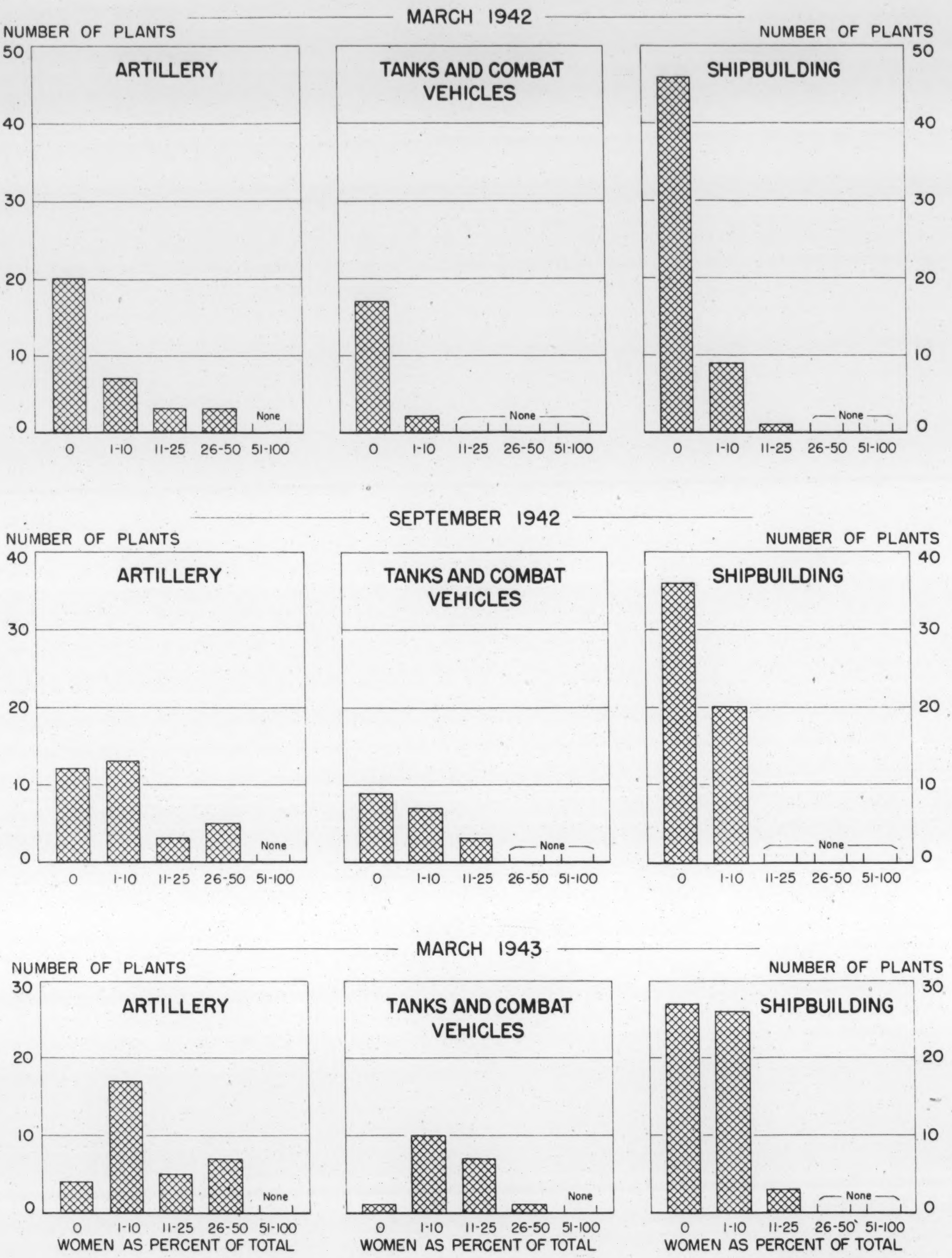

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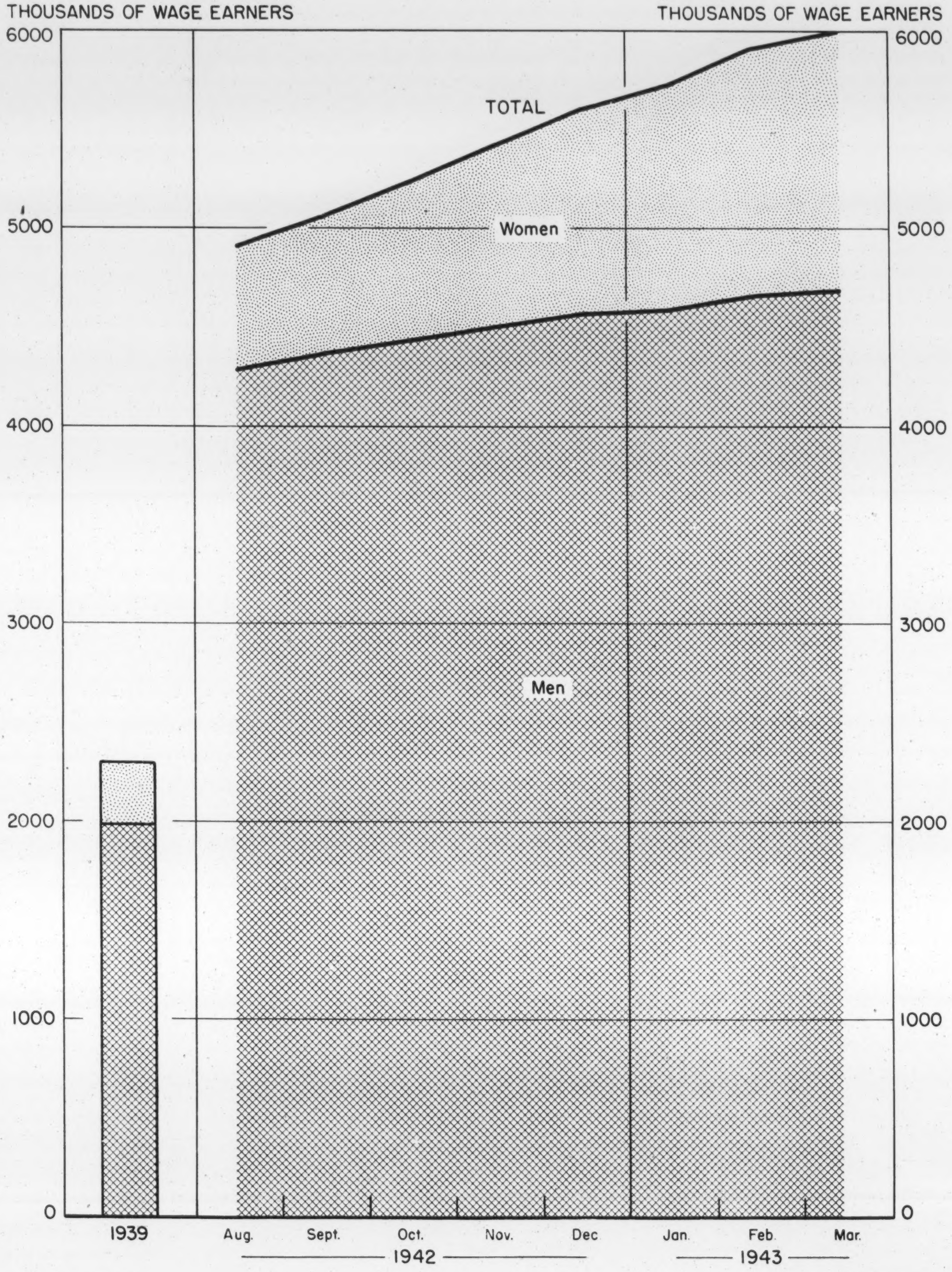
CHART 4

# NUMBER OF MEN AND WOMEN WAGE EARNERS IN THE METAL PRODUCTS INDUSTRIES*



*Excludes primary material producers

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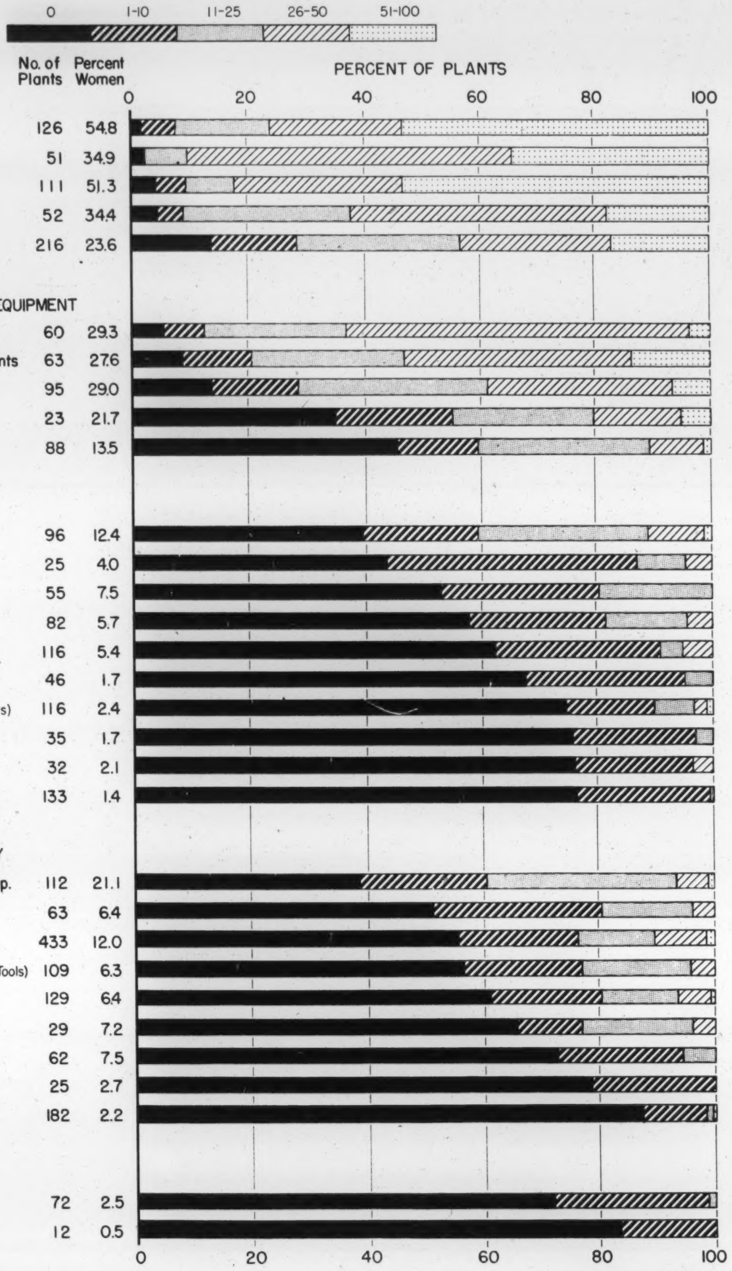
CHART 5

# DISTRIBUTION OF PLANTS IN SELECTED METAL PRODUCTS INDUSTRIES BY PERCENTAGE OF WOMEN IN PLANT LABOR FORCE

## NOVEMBER 1942



| INDUSTRY | No. of Plants | Percent Women |
|---|---|---|
| ELECTRICAL APPARATUS | | |
| Radios and Phonographs | 126 | 54.8 |
| Automotive Equipment | 51 | 34.9 |
| Communication Equipment | 111 | 51.3 |
| Electrical Appliances | 52 | 34.4 |
| Generating Apparatus | 216 | 23.6 |
| OFFICE, HOUSEHOLD AND SERVICE EQUIPMENT | | |
| Office and Store Machines | 60 | 29.3 |
| Professional and Scientific Instruments | 63 | 27.6 |
| Cutlery | 95 | 29.0 |
| Domestic Laundry Equipment | 23 | 21.7 |
| Refrigerators | 88 | 13.5 |
| SPECIAL INDUSTRIAL MACHINERY | | |
| Textile Machinery | 96 | 12.4 |
| Tractors | 25 | 4.0 |
| Printing Trades Machinery | 55 | 7.5 |
| Oilfield Machinery | 82 | 5.7 |
| Food Products Machinery | 116 | 5.4 |
| Paper Products Machinery | 46 | 1.7 |
| Agricultural Machinery (except Tractors) | 116 | 2.4 |
| Mining Machinery | 35 | 1.7 |
| Woodworking Machinery | 32 | 2.1 |
| Construction Machinery | 133 | 1.4 |
| GENERAL INDUSTRIAL MACHINERY | | |
| Mechanical Power Transmission Equip. | 112 | 21.1 |
| Internal Combustion Engines | 63 | 6.4 |
| Machine Shop Products | 433 | 12.0 |
| Metalworking Machinery (except Mach.Tools) | 109 | 6.3 |
| Pumping Equipment | 129 | 6.4 |
| Blowers and Fans | 29 | 7.2 |
| Elevators and Escalators | 62 | 7.5 |
| Industrial Cars and Trucks | 25 | 2.7 |
| Power Boilers | 182 | 2.2 |
| RAILROAD EQUIPMENT | | |
| Railroad Cars | 72 | 2.5 |
| Locomotives | 12 | 0.5 |

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CHART 6

# VARIATION IN PERCENTAGE OF WOMEN EMPLOYED, BY SIZE OF PLANT

MARCH 1942 AND MARCH 1943

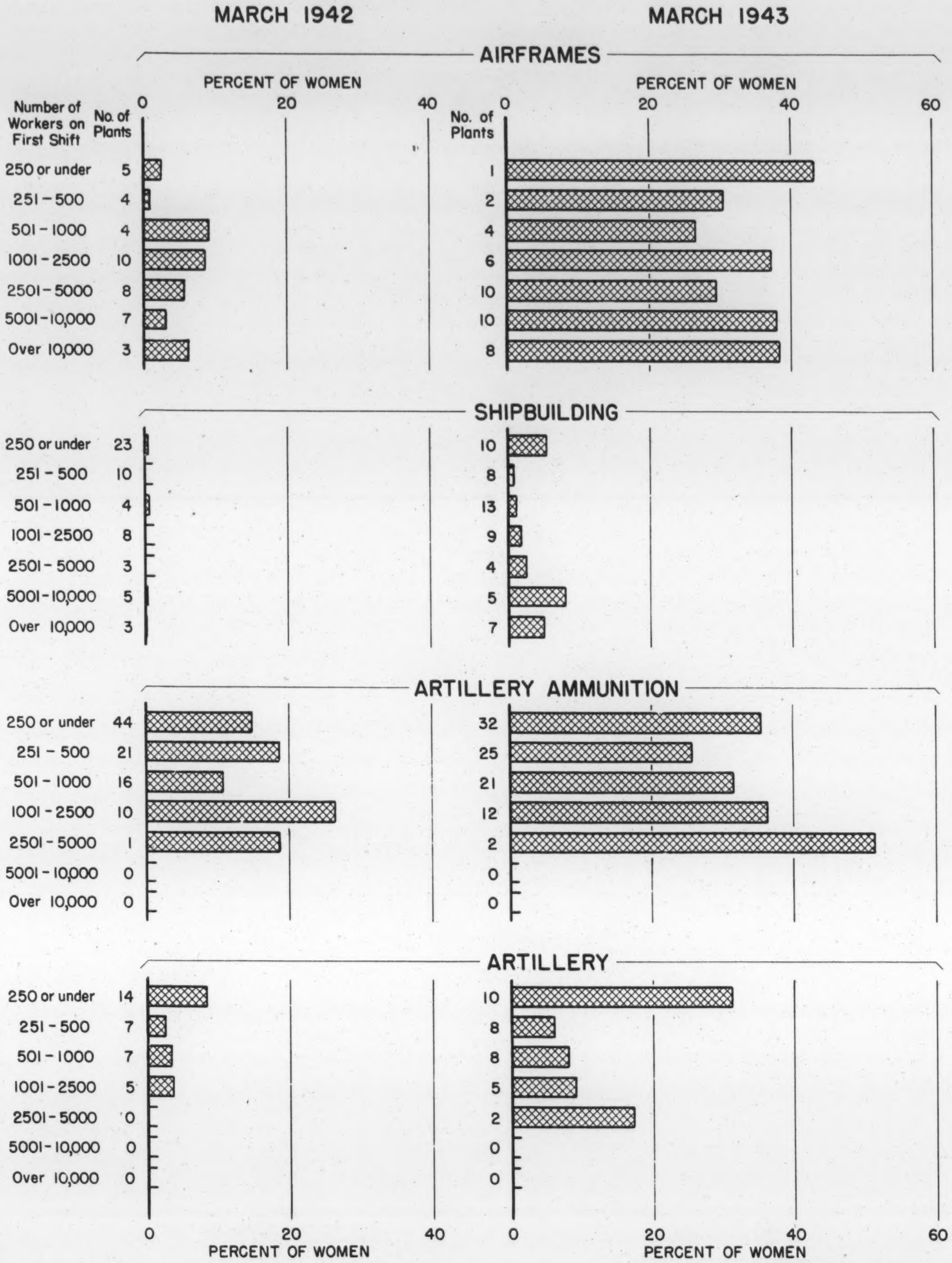

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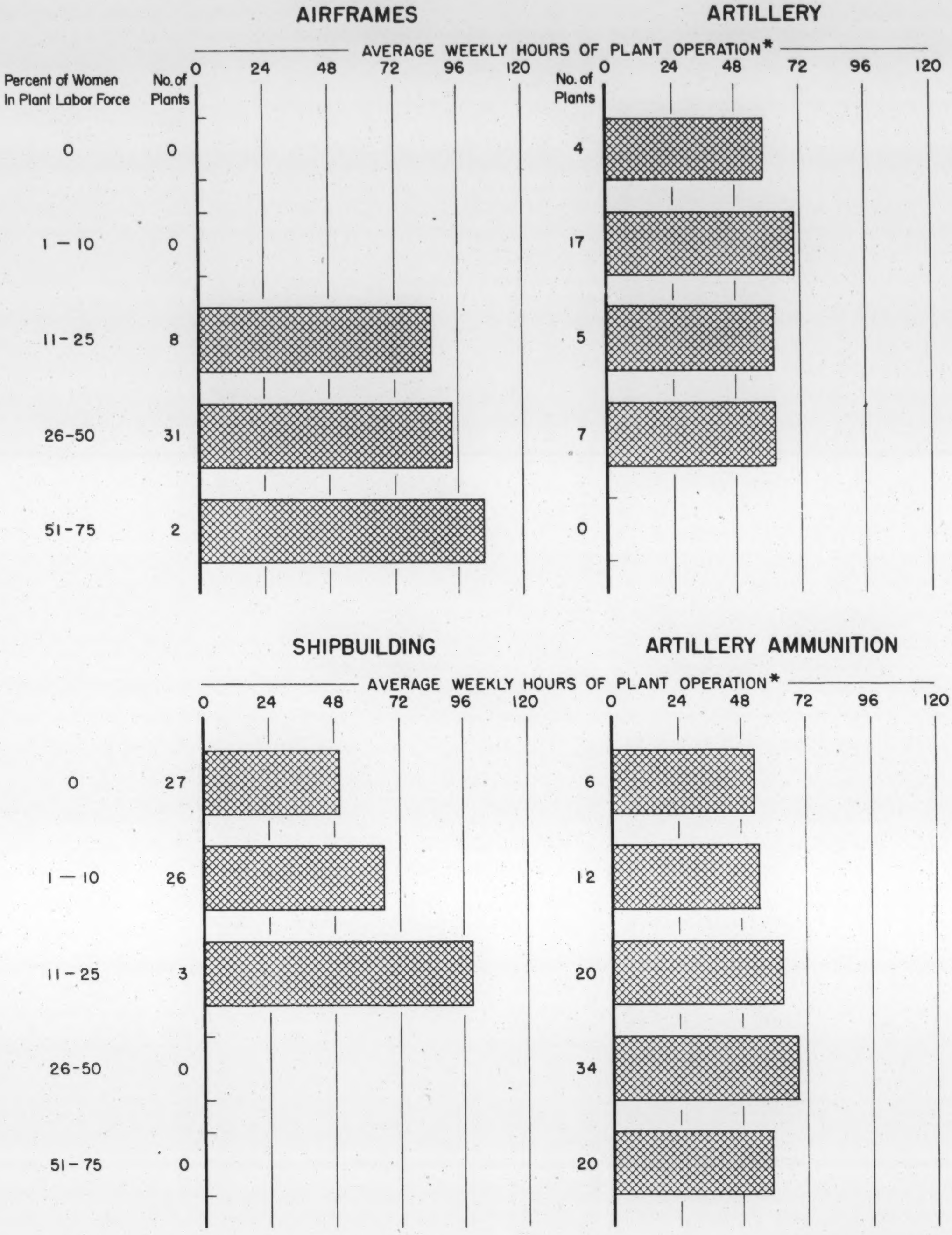
CHART 7

# UTILIZATION* OF PLANTS WITH DIFFERENT PERCENTAGES OF WOMEN EMPLOYEES

MARCH 1943



*Total man-hours divided by number of workers on largest shift.

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## Table 1

### Women as Percent of Total Wage Earners in 10 War Industries

### Quarterly, Year Ending March 1943

| Industry | Number of plants | March 1942 | June 1942 | September 1942 | December 1942 | March 1943 |
|---|---|---|---|---|---|---|
| Aircraft | | | | | | |
| Airframes | 41 | 5.1 | 10.8 | 20.4 | 32.9 | 36.8 |
| Engines | 17 | 2.3 | 4.4 | 7.1 | 13.9 | 18.0 |
| Propellers | 11 | 0.8 | 5.0 | 7.7 | 12.9 | 14.7 |
| Ordnance | | | | | | |
| Small arms | 28 | 12.9 | 14.4 | 17.1 | 21.5 | 25.2 |
| Artillery | 33 | 4.0 | 4.8 | 6.3 | 10.1 | 12.5 |
| Small arms ammunition | 12 | 33.5 | 35.1 | 38.9 | 44.9 | 46.1 |
| Artillery ammunition | 92 | 19.1 | 21.4 | 26.1 | 31.1 | 34.8 |
| Tanks and combat vehicles | 19 | a/ | 0.2 | 1.2 | 4.6 | 7.0 |
| Fire control equipment | 20 | 15.3 | 15.8 | 21.1 | 29.4 | 35.9 |
| Shipbuilding (private yards) | 56 | 0.1 | 0.4 | 0.9 | 3.1 | 5.2 |

a/ Less than 0.05 percent.

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Table 2

## Percent Change in Number of Men and Women Employed in 10 War Industries

Quarterly, Year Ending March 1943

| Industry | During quarter ending: | | | |
|---|---|---|---|---|
| | June 1942 | September 1942 | December 1942 | March 1943 |
| Aircraft | | | | |
| Airframes | | | | |
| Total wage earners | 14.7 | 19.9 | 20.1 | 6.6 |
| Women | 144.0 | 126.5 | 93.3 | 19.4 |
| Men | 7.8 | 7.0 | 1.3 | .4 |
| Engines | | | | |
| Total wage earners | 18.7 | 9.8 | 12.6 | 7.4 |
| Women | 131.3 | 78.4 | 118.6 | 39.3 |
| Men | 16.1 | 6.6 | 4.4 | 2.3 |
| Propellers | | | | |
| Total wage earners | 33.5 | 17.6 | 9.7 | 5.7 |
| Women | 785.4 | 80.6 | 84.4 | 20.4 |
| Men | 27.8 | 14.3 | 3.5 | 3.5 |
| Ordnance | | | | |
| Small arms | | | | |
| Total wage earners | 2.4 | 5.2 | 9.5 | 1.6 |
| Women | 14.5 | 25.3 | 37.4 | 19.2 |
| Men | 0.6 | 1.8 | 3.7 | -3.3 |
| Artillery | | | | |
| Total wage earners | 17.2 | 5.7 | 5.4 | 1.1 |
| Women | 42.3 | 37.9 | 69.8 | 25.2 |
| Men | 16.2 | 4.0 | 1.1 | -1.7 |
| Small arms ammunition | | | | |
| Total wage earners | 8.9 | 7.1 | 15.6 | -2.5 |
| Women | 13.9 | 18.8 | 33.6 | a/ |
| Men | 6.4 | 0.9 | 4.1 | -4.6 |
| Artillery ammunition | | | | |
| Total wage earners | -0.4 | 5.4 | 2.5 | 7.9 |
| Women | 11.5 | 28.5 | 22.2 | 20.9 |
| Men | -3.2 | a/ | -4.5 | 2.1 |
| Tanks and combat vehicles | | | | |
| Total wage earners | 7.7 | 9.7 | 9.6 | 0.8 |
| Women | 844.4 | 625.9 | 312.0 | 54.3 |
| Men | 7.6 | 8.6 | 5.8 | -1.7 |
| Fire control equipment | | | | |
| Total wage earners | 0.5 | 14.0 | 16.3 | 9.9 |
| Women | 3.8 | 52.1 | 62.7 | 34.0 |
| Men | a/ | 6.9 | 4.0 | -0.2 |
| Shipbuilding (private yards) | | | | |
| Total wage earners | 27.6 | 23.1 | 5.9 | 8.7 |
| Women | 211.5 | 207.6 | 260.1 | 82.1 |
| Men | 27.3 | 22.4 | 3.6 | 6.4 |

a/ Less than 0.05 percent.

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## Table 3

### Women as Percent of Net Increase in Total Employment in 10 War Industries

Quarterly, Year Ending March 1943

| Industry | Women as percent of total net increase during: Year ending March 1943 | Second quarter 1942 | Third quarter 1942 | Fourth quarter 1942 | First quarter 1943 |
|---|---|---|---|---|---|
| Aircraft | | | | | |
| Airframes | 79 | 48 | 68 | 95 | 96 |
| Engines | 45 | 16 | 35 | 67 | 73 |
| Propellers | 32 | 18 | 23 | 67 | 47 |
| Ordnance | | | | | |
| Small arms | 88 | 77 | 70 | 67 | 264 a/ |
| Artillery | 39 | 10 | 32 | 81 | 237 a/ |
| Small arms ammunition | 86 | 53 | 92 | 84 | b/ |
| Artillery ammunition | 133 a/ | b/ | 114 a/ | 232 a/ | 82 |
| Tanks and combat vehicles | 30 | 2 | 12 | 40 | 294 a/ |
| Fire control equipment | 80 | 106 a/ | 59 | 81 | 101 a/ |
| Shipbuilding (private yards) | 11 | 1 | 3 | 40 | 29 |

a/ Percentages in excess of 100 reflect an increase in number of women and in total employment in conjunction with a decrease in number of men.

b/ Total employment declined.

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## Table 4

## Shift in Distribution of Plants Classified by Percent of Women Employed

## Quarterly, Year Ending March 1943

| Women as percent of total wage earners | Number of plants with specified percentage: | | | | |
|---|---|---|---|---|---|
| | March 1942 | June 1942 | September 1942 | December 1942 | March 1943 |
| | | | Airframes | | |
| Total | 41 | 41 | 41 | 41 | 41 |
| 0 | 4 | 1 | 0 | 0 | 0 |
| 1 - 10 | 29 | 21 | 5 | 1 | 0 |
| 11 - 25 | 7 | 16 | 29 | 14 | 8 |
| 26 - 50 | 1 | 3 | 7 | 25 | 31 |
| 51 - 100 | 0 | 0 | 0 | 1 | 2 |
| | | | Airplane engines | | |
| Total | 17 | 17 | 17 | 17 | 17 |
| 0 | 9 | 6 | 6 | 3 | 3 |
| 1 - 10 | 7 | 9 | 7 | 6 | 2 |
| 11 - 25 | 1 | 1 | 3 | 7 | 10 |
| 26 - 50 | 0 | 1 | 1 | 1 | 2 |
| 51 - 100 | 0 | 0 | 0 | 0 | 0 |
| | | | Small arms | | |
| Total | 28 | 28 | 28 | 28 | 28 |
| 0 | 9 | 7 | 4 | 4 | 3 |
| 1 - 10 | 14 | 14 | 14 | 6 | 3 |
| 11 - 25 | 3 | 5 | 8 | 14 | 15 |
| 26 - 50 | 2 | 2 | 2 | 3 | 7 |
| 51 - 100 | 0 | 0 | 0 | 1 | 0 |
| | | | Artillery | | |
| Total | 33 | 33 | 33 | 33 | 33 |
| 0 | 20 | 13 | 12 | 6 | 4 |
| 1 - 10 | 7 | 12 | 13 | 14 | 17 |
| 11 - 25 | 3 | 4 | 3 | 8 | 5 |
| 26 - 50 | 3 | 4 | 5 | 5 | 7 |
| 51 - 100 | 0 | 0 | 0 | 0 | 0 |
| | | | Small arms ammunition | | |
| Total | 12 | 12 | 12 | 12 | 12 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1 - 10 | 1 | 1 | 0 | 0 | 1 |
| 11 - 25 | 6 | 6 | 3 | 1 | 0 |
| 26 - 50 | 5 | 5 | 9 | 11 | 10 |
| 51 - 100 | 0 | 0 | 0 | 0 | 1 |

## Table 4 (concluded)

## Shift in Distribution of Plants Classified by Percent of Women Employed

## Quarterly, Year Ending March 1943

| Women as percent of total wage earners | March 1942 | June 1942 | September 1942 | December 1942 | March 1943 |
|---|---|---|---|---|---|
| | | | Artillery ammunition | | |
| Total | 92 | 92 | 92 | 92 | 92 |
| 0 | 22 | 20 | 15 | 8 | 6 |
| 1 - 10 | 24 | 18 | 15 | 18 | 12 |
| 11 - 25 | 18 | 24 | 24 | 28 | 20 |
| 26 - 50 | 23 | 23 | 30 | 24 | 34 |
| 51 - 100 | 5 | 7 | 8 | 14 | 20 |
| | | | Tanks and combat vehicles | | |
| Total | 19 | 19 | 19 | 19 | 19 |
| 0 | 17 | 13 | 9 | 4 | 1 |
| 1 - 10 | 2 | 5 | 7 | 9 | 10 |
| 11 - 25 | 0 | 1 | 3 | 5 | 7 |
| 26 - 50 | 0 | 0 | 0 | 1 | 1 |
| 51 - 100 | 0 | 0 | 0 | 0 | 0 |
| | | | Fire control equipment | | |
| Total | 20 | 20 | 20 | 20 | 20 |
| 0 | 4 | 3 | 2 | 2 | 2 |
| 1 - 10 | 5 | 4 | 5 | 2 | 1 |
| 11 - 25 | 9 | 10 | 9 | 10 | 6 |
| 26 - 50 | 2 | 3 | 4 | 6 | 11 |
| 51 - 100 | 0 | 0 | 0 | 0 | 0 |
| | | | Shipbuilding (private yards) | | |
| Total | 56 | 56 | 56 | 56 | 56 |
| 0 | 46 | 35 | 36 | 27 | 27 |
| 1 - 10 | 9 | 21 | 20 | 29 | 26 |
| 11 - 25 | 1 | 0 | 0 | 0 | 3 |
| 26 - 50 | 0 | 0 | 0 | 0 | 0 |
| 51 - 100 | 0 | 0 | 0 | 0 | 0 |

Number of plants with specified percentage:

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## Table 5

## Shift in Distribution of Wage Earners in 10 War Industries, Classified by Plant's Ratio of Women to Total Employment

### March 1942 and March 1943

| Industry | Total | Percent of wage earners in plants with following ratios of women to total wage earners: | | | | |
|---|---|---|---|---|---|---|
| | | 0 | 1-10 | 11-25 | 26-50 | 51-100 |
| Aircraft | | | | | | |
| Airframes | | | | | | |
| March 1942 | 100 | 3 | 91 | 6 | a/ | 0 |
| March 1943 | 100 | 0 | 0 | 18 | 71 | 11 |
| Engines | | | | | | |
| March 1942 | 100 | 31 | 68 | 1 | 0 | 0 |
| March 1943 | 100 | 6 | 10 | 70 | 14 | 0 |
| Ordnance | | | | | | |
| Small arms | | | | | | |
| March 1942 | 100 | 9 | 64 | 9 | 18 | 0 |
| March 1943 | 100 | a/ | 5 | 58 | 37 | 0 |
| Artillery | | | | | | |
| March 1942 | 100 | 62 | 27 | 9 | 2 | 0 |
| March 1943 | 100 | 10 | 61 | 11 | 18 | 0 |
| Small arms ammunition | | | | | | |
| March 1942 | 100 | 0 | a/ | 28 | 72 | 0 |
| March 1943 | 100 | 0 | 1 | 0 | 98 | 1 |
| Artillery ammunition | | | | | | |
| March 1942 | 100 | 15 | 32 | 23 | 20 | 10 |
| March 1943 | 100 | 2 | 14 | 21 | 34 | 29 |
| Tanks and combat vehicles | | | | | | |
| March 1942 | 100 | 87 | 13 | 0 | 0 | 0 |
| March 1943 | 100 | 1 | 73 | 26 | a/ | 0 |
| Fire control equipment | | | | | | |
| March 1942 | 100 | 3 | 39 | 51 | 7 | 0 |
| March 1943 | 100 | 2 | 2 | 21 | 75 | 0 |
| Shipbuilding (private yards) | | | | | | |
| March 1942 | 100 | 62 | 38 | a/ | 0 | 0 |
| March 1943 | 100 | 11 | 68 | 21 | 0 | 0 |

a/ Less than 0.5 percent.

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## Table 6

## Variation in Percentage of Women Employed, by Size of Plant

## March 1942 and March 1943

| Size of plant: Number of workers on first shift | March 1942 | | March 1943 | |
|---|---|---|---|---|
| | No. of plants | Women as percent of total | No. of plants | Women as percent of total |
| | | **Airframes** | | |
| Total | 41 | 5.1 | 41 | 36.8 |
| 250 or less | 5 | 2.6 | 1 | 43.4 |
| 251 - 500 | 4 | 0.9 | 2 | 30.7 |
| 501 - 1,000 | 4 | 9.1 | 4 | 26.5 |
| 1,001 - 2,500 | 10 | 8.6 | 6 | 37.1 |
| 2,501 - 5,000 | 8 | 5.7 | 10 | 29.7 |
| 5,001 -10,000 | 7 | 3.1 | 10 | 38.1 |
| Over 10,000 | 3 | 6.2 | 8 | 38.4 |
| | | **Shipbuilding (private yards)** | | |
| Total | 56 | 0.1 | 56 | 5.2 |
| 250 or less | 23 | 0.5 | 10 | 1.0 |
| 251 - 500 | 10 | 0.0 | 8 | 0.7 |
| 501 - 1,000 | 4 | 0.8 | 13 | 1.2 |
| 1,001 - 2,500 | 8 | 0.0 | 9 | 1.9 |
| 2,501 - 5,000 | 3 | 0.0 | 4 | 2.6 |
| 5,001 -10,000 | 5 | 0.3 | 5 | 8.2 |
| Over 10,000 | 3 | 0.1 | 7 | 5.1 |
| | | **Artillery Ammunition** | | |
| Total | 92 | 19.1 | 92 | 34.8 |
| 250 or less | 44 | 15.0 | 32 | 35.5 |
| 251 - 500 | 21 | 18.9 | 25 | 25.6 |
| 501 - 1,000 | 16 | 10.9 | 21 | 31.7 |
| 1,001 - 2,500 | 10 | 26.5 | 12 | 36.5 |
| 2,501 - 5,000 | 1 | 18.9 | 2 | 51.3 |
| | | **Artillery** | | |
| Total | 33 | 4.0 | 33 | 12.5 |
| 250 or less | 14 | 8.4 | 10 | 31.1 |
| 251 - 500 | 7 | 2.7 | 8 | 6.0 |
| 501 - 1,000 | 7 | 3.4 | 8 | 8.1 |
| 1,001 - 2,500 | 5 | 3.7 | 5 | 9.2 |
| 2,501 - 5,000 | 0 | - | 2 | 17.4 |

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## Table 7

## Number of Women Wage Earners in the Metal Products Industries a/

## October 1939 and Monthly, August 1942 - March 1943

| Month | Total wage earners (thousands) | Women | |
|---|---|---|---|
| | | Thousands | Percent of total |
| 1939 | | | |
| October | 2,278 | 304 | 13.4 |
| 1942 | | | |
| August | 4,911 | 616 | 12.5 |
| September | 5,069 | 691 | 13.6 |
| October | 5,243 | 800 | 15.3 |
| November | 5,433 | 921 | 17.0 |
| December | 5,612 | 1,038 | 18.5 |
| 1943 | | | |
| January | 5,726 | 1,122 | 19.6 |
| February | 5,881 | 1,227 | 20.9 |
| March | 6,000 | 1,303 | 21.7 |

a/ Excludes primary material producers.

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## Table 8

## Percent of Women Wage Earners in 100 Metal Products Industries

## October 1939, October 1942, and March 1943

| Industry a/ | October 1939 | October 1942 | March 1943 |
|---|---|---|---|
| IRON AND STEEL PRODUCTS | | | |
| Tin cans and other tinware | 28.4 | 33.0 | 37.6 |
| Wire drawn from purchased rods | 10.9 | 9.9 | 17.0 |
| Nails, spikes, etc. | 24.5 | 30.7 | 31.7 |
| Wirework | 22.1 | 22.5 | 27.3 |
| Cutlery and edge tools | 27.7 | 27.8 | 33.4 |
| Tools, files, and saws (exc. edge and machine tools) | 9.2 | 12.3 | 17.2 |
| Hardware, n.e.c. b/ | 23.1 | 28.8 | 32.2 |
| Enameled-iron sanitary ware and other plumbers' supplies | 5.5 | 12.8 | 13.6 |
| Oil burners | 0.8 | 9.1 | 13.6 |
| Power boilers | c/ | 1.4 | 4.2 |
| Steam and hot-water heating apparatus | 0.1 | 0.6 | 3.0 |
| Stoves, ranges, and hot-air furnaces (exc. electric) | 3.2 | 11.3 | 17.5 |
| Steam fittings | 8.6 | 18.5 | 24.7 |
| Heating and cooking apparatus, exc. electric, n.e.c. b/ | 3.7 | 17.3 | 17.7 |
| Vitreous enameled products | 24.2 | 27.5 | 37.9 |
| Automobile stampings | 18.8 | 21.5 | 27.3 |
| Stamped and pressed metal products (exc. automobile stampings) | 24.1 | 29.4 | 32.5 |
| Fabricated structural steel and ornamental metal work | 0.1 | 1.6 | 6.5 |
| Doors and frames | 0.6 | 2.2 | 12.8 |
| Bolts, nuts, washers, and rivets | 13.7 | 18.6 | 26.1 |
| Forgings, iron and steel | 0.3 | 0.9 | 4.5 |
| Wrought pipes, welded and heavy riveted | 4.7 | 3.5 | 9.5 |
| Springs, steel (exc. wire) | 0.9 | 10.8 | 10.1 |
| Screw-machine products and wood screws | 11.7 | 24.4 | 31.2 |
| Steel barrels, kegs, and drums | 11.0 | 14.7 | 21.1 |
| Firearms | 4.8 | 14.2 | 21.7 |
| Safes and vaults | 0.4 | 2.8 | 4.3 |
| NONFERROUS METAL PRODUCTS | | | |
| Clocks, watches, and watchcases | 45.3 | 55.0 | 56.3 |
| Jewelry (precious metals), jewelers' findings and lapidary work | 26.6 | 41.0 | 42.1 |
| Silverware and plated ware | 21.5 | 25.9 | 30.7 |
| Electroplating, plating, and polishing | 5.0 | 18.5 | 25.2 |
| Lighting fixtures | 25.7 | 26.1 | 31.0 |
| Nonferrous metal foundries (exc. aluminum) | 0.9 | 3.7 | 6.8 |
| Aluminumware - kitchen, hospital, and household (exc. electrical apparatus) | 25.9 | 31.7 | 37.7 |

## Table 8 (continued)

## Percent of Women Wage Earners in 100 Metal Products Industries

## October 1939, October 1942, and March 1943

| Industry a/ | October 1939 | October 1942 | March 1943 |
|---|---|---|---|
| Aluminum products, n.e.c. b/ | 5.0 | 7.1 | 14.1 |
| Sheet-metal work, not spec. classified | 1.5 | 11.6 | 14.9 |
| Nonferrous metal products, n.e.c. b/ | 13.0 | 20.4 | 27.0 |
| ELECTRICAL MACHINERY | | | |
| Wiring devices and supplies | 30.8 | 38.0 | 43.0 |
| Carbon products | 13.8 | 20.9 | 31.4 |
| Electrical measuring instruments | 34.6 | 50.3 | 57.8 |
| Generating apparatus and other elect. mchy. | 18.6 | 21.4 | 31.1 |
| Electrical appliances | 27.9 | 31.5 | 38.1 |
| Insulated wire and cable | 30.7 | 36.4 | 45.9 |
| Automotive electrical equipment | 30.1 | 31.6 | 38.6 |
| Electric lamps | 77.3 | 76.3 | 78.4 |
| Radios, radio tubes, and phonographs | 54.2 | 53.6 | 58.8 |
| Communication equipment | 41.7 | 48.7 | 59.6 |
| Batteries, storage and primary | 17.9 | 26.5 | 31.4 |
| X-ray and therapeutic apparatus and electronic tubes | 7.2 | 20.2 | 30.2 |
| Electrical products, n.e.c. b/ | 27.0 | 28.3 | 34.1 |
| MACHINERY (EXCEPT ELECTRICAL) | | | |
| Steam engines, turbines, and water wheels | 0.7 | 2.3 | 6.4 |
| Internal-combustion engines | 2.8 | 5.7 | 9.4 |
| Tractors | 0.7 | 2.7 | 6.5 |
| Agricultural machinery (exc. tractors) | 1.3 | 2.6 | 4.8 |
| Construction machinery | 0.2 | 1.2 | 3.6 |
| Oil-field machinery | 0.3 | 3.4 | 12.0 |
| Mining machinery and equipment | 0.6 | 1.2 | 1.8 |
| Metalworking machinery and equip., n.e.c. b/ | 1.7 | 5.2 | 9.1 |
| Food-products machinery | 1.2 | 5.6 | 8.5 |
| Textile machinery | 4.0 | 10.5 | 15.5 |
| Woodworking machinery | 1.0 | 0.9 | 4.0 |
| Paper and paper-products machinery | 0.1 | 1.1 | 2.9 |
| Printing-trades machinery and equipment | 3.8 | 7.6 | 9.3 |
| Special industry machinery, n.e.c. b/ | 0.9 | 2.3 | 6.2 |
| Measuring and dispensing pumps | 19.2 | 31.2 | 33.9 |
| Pumping equipment and air compressors | 2.8 | 5.2 | 8.6 |
| Elevators, escalators, and conveyors | 1.6 | 7.8 | 9.3 |
| Cars and trucks, industrial and mining | 0.6 | 2.2 | 5.6 |
| Blowers and fans | 0.5 | 6.3 | 6.8 |
| Measuring instruments, mechanical | 9.6 | 20.6 | 29.7 |
| Mechanical power-transmission equipment | 12.5 | 20.1 | 27.0 |
| Stokers, mechanical | 0.0 | 8.9 | 10.2 |

## Table 8 (concluded)

## Percent of Women Wage Earners in 100 Metal Products Industries

## October 1939, October 1942, and March 1943

| Industry a/ | October 1939 | October 1942 | March 1943 |
|---|---|---|---|
| Machine-shop products, n.e.c. b/ | 5.9 | 12.2 | 16.8 |
| Industrial machinery, n.e.c. b/ | 1.0 | 2.0 | 10.3 |
| Machine shop repairs | 0.5 | 4.0 | 4.3 |
| Office and store machines, n.e.c. b/ | 23.9 | 26.8 | 35.3 |
| Vending and amusement machines | 10.6 | 22.9 | 36.6 |
| Scales and balances | 6.4 | 12.6 | 14.1 |
| Laundry equipment, domestic | 4.3 | 19.5 | 27.8 |
| Commercial laundry, dry-cleaning, and pressing machinery | 1.7 | 2.4 | 7.1 |
| Sewing machines | 12.0 | 22.7 | 27.1 |
| Refrigerators and air-conditioning mchy. | 8.5 | 10.8 | 20.9 |
| MOTOR VEHICLES AND PARTS | 6.6 | 8.8 | 15.9 |
| TRANSPORTATION EQUIPMENT, EXCEPT MOTOR VEHICLES | | | |
| Locomotives | 0.8 | 0.3 | 1.9 |
| Railroad and street cars and equipment | 0.5 | 2.0 | 5.2 |
| Shipbuilding | c/ | 1.4 | 5.4 |
| Motorcycles, bicycles, and parts | 9.7 | 17.7 | 17.0 |
| MISCELLANEOUS INDUSTRIES | | | |
| Professional and scientific instruments (exc. surgical and dental) | 14.5 | 23.1 | 36.4 |
| Photographic apparatus and projection equipment (exc. lenses) | 26.4 | 27.4 | 34.9 |
| Optical instruments and lenses | 18.4 | 29.0 | 39.0 |
| Opthalmic goods; lenses and fittings | 34.7 | 36.2 | 45.3 |
| Surgical, medical, and dental instruments and equipment | 43.2 | 50.3 | 52.7 |
| Pianos and organs | 10.0 | 12.8 | 23.0 |
| Games, toys, and children's vehicles | 44.5 | 53.1 | 52.1 |
| Sporting and athletic goods, n.e.c. b/ | 35.1 | 37.7 | 39.0 |
| Pens and mechanical pencils | 55.7 | 64.8 | 65.4 |
| Costume jewelry and novelties | 57.4 | 65.0 | 68.9 |
| Beauty-shop and barber-shop equipment | 44.0 | 47.2 | 45.2 |
| Soda fountains and beer dispensing equip. | 0.3 | 10.7 | 13.5 |
| Fire extinguishers, chemical | 9.9 | 38.3 | 35.8 |

a/ Based on classification of plants according to principal product in 1939.

b/ Not elsewhere classified.

c/ Less than .05 percent.

**WAR PRODUCTION BOARD**
**Statistics Division**
**Facilities Utilization Section**

J. Hooks

# THE WOMAN COUNSELOR IN WAR INDUSTRIES

## An Effective System

By DOROTHY K. NEWMAN

*INDUSTRY has had personnel departments for many years. The development of very large war production plants, the need for speedy production, and the employment of large numbers of women and men inexperienced in industry have brought about new needs, however, that called for a new type of personnel system. From the past 2 years' experience of many airframe, shipyard, and ammunition plants there has evolved an employee counseling system that meets workers' current needs. Such a system is described in this pamphlet.*

*As shipyards present more difficult women-personnel problems than any other war industry, the effectiveness of personnel systems in shipyards in the spring of 1943 is described separately on the concluding pages.*

UNITED STATES DEPARTMENT OF LABOR
WOMEN'S BUREAU

DECEMBER 1943

# THE WOMAN COUNSELOR IN WAR INDUSTRIES

## An Effective System

Good personnel practice demands careful selection, placement, and supervision of each worker so that his or her optimum efficiency may be attained. Awareness of individual differences is necessary and, by extension of the principle, recognition of such group differences as exist between men and women workers. In this recognition there is no assumption of inferiority or superiority or of any valuation whatever, but knowledge of the more uniformly good results from treating like things alike and different things differently.

Though the new women recruits should be considered on the job primarily as workers rather than as women, recognition should be given to their strangeness in the industrial environment, their inexperience, and the difference from men in their background and physical structure.

In acknowledgment of these facts, industries employing numbers of women for the first time are tending increasingly to set up a women's division in their personnel or industrial relations department headed by a properly qualified woman. Such an arrangement makes possible more effective selection and placement of women. It maintains also regular machinery of an effective kind for settling women's grievances, solving their special problems, supervising their particular needs, and helping them in all matters that affect their job adjustment except actual performance of the work, thereby relieving their production supervisor from duties for which he has little time and is not especially qualified. A women's division is especially recommended in industries in which the physical and administrative adjustment of the plant has until very recently been geared entirely to a male labor force.

An arrangement that has been found effective in plants employing as many as 500 or more women is one in which a head of women's personnel works within the main personnel or industrial relations office and has under her women personnel counselors who are responsible also to the chief production supervisors or masters in the shops. The counselors work directly with the women employees and occupy a desk in the shop to which they are appointed. In most plants or yards it is best that at least one woman personnel assistant be assigned to every shop where considerable numbers of women are employed. In some plants there may be shops requiring several women assistants. When numbers of women are working on the ways, on board ship, or out of doors on slabs, forms, or platens in shipyards, personnel assistants should be assigned to cover these areas. The women's personnel organization should include also women employment and exit interviewers when the head of women's personnel or the women counselors do not assume these duties.

In plants with relatively few women, the head of women's personnel may be able to handle all matters herself with perhaps the aid of a woman interviewer and one or more roving representatives or assistants who keep in close contact with the women workers and with the women's production supervisors.

The size and lay-out of the factory or yard and the extent of women's employment will determine the detailed set-up of the counseling system. However, experience and present need have determined what the functions should be. Whatever the set-up and functions, the counselors' status should be well defined and their duties discussed with and made known to shop supervisors, trade union, and men and women workers. The sympathetic cooperation of management and of labor is essential to the success of a personnel counselor program.

The functions of the director and of shop counselors that experience has proved effective follow.

## THE HEAD OF WOMEN'S PERSONNEL.

### HER FUNCTIONS.

No position may be defined rigidly to cover every situation. Actually, the functions of the women's personnel officer and of any assistants she has will vary from plant to plant depending on the background and qualifications of the incumbents, conditions in the plant, and of course the degree of latitude given the women's division by management. By and large, however, certain duties are fundamental to the position of head of women's personnel if the individual occupying the post is to have sufficient responsibility for effective action. She should be called upon to assist and advise the chief officer in charge of personnel in the over-all planning and coordination of employee-relations work affecting women production workers. In this way she will help to formulate the general policies that will prevail in the selection, placement, induction, and supervision of women as well as in their counseling and personal adjustment to the job. A uniform policy with respect to the general steps to be taken when problems arise from the employment of women should be established in the central personnel office and maintained through the office of the head of women's personnel. It is recognized that in occasional instances proper and effective placement of women on certain shifts or types of job will invade established seniority rights and privileges. Procedure in such cases should be made clear and should be decided in consultation with labor and management.[1]

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[1] Whenever possible the preferred method for the duration of the war is to allow placement of women wherever they can do the best job regardless of the established seniority rules. For example, if the heavy jobs usually go to the youngest workers in point of seniority, it should be recognized by labor and management that for as long as women are needed in the plant this rule should be waived so that, though new workers, women can be assigned to jobs according to ability to perform them. Likewise, where newcomers automatically draw the graveyard shift, it is recommended that this rule be overlooked in special cases so that assignment to shifts may be made on an individual basis when home responsibilities, health, or other factors warrant.

It should be the duty of the head of women personnel to foster and maintain the correlation and cooperation of the various plant departments with the women's personnel program. This should involve discussion, interchange of ideas, and development of policies regarding such matters as women's medical examination and care, their safety, training and occupational dispersion and work progress. In this way each department of the plant is apprised of the aid it can give in furnishing valuable information to the women's division and at the same time can learn of ways to extend and improve its own program with respect to the women personnel. The head of women's personnel also should have considerable direct responsibility for planning and supervising the setting up of toilet, washroom, restroom, and any other facilities, such as the cafeteria or other lunching arrangements, that women must use.

If the head of women's personnel does not do the interviewing herself, she should help to select, guide, and train, and should work closely with, the intake and exit interviewer of women, both to seek ways of improving women's selection and placement and to determine and if possible eliminate causes of their separation. Where women personnel counselors are employed, the head of the women's program should choose the candidates in consultation with the shop supervisors or masters with whom they will work and subject to the approval of the chief personnel officer. She should, however, have sole responsibility for the counselors' training and direction and be available at all times to answer their questions and help them with their problems. When there are a number of counselors it is advisable to hold regular meetings with the group for interchange of ideas, threshing out of problems, and review of policy. From these meetings the head of women's personnel may select pressing matters that require quick administrative action, or situations of larger scope requiring study and careful approach with the cooperation of the entire administrative staff, perhaps even outside agencies.

The women's head should supervise the setting up and maintenance of an efficient, complete, and up-to-date record system covering every woman employee. Background facts such as experience, education, age, marital status, number and ages of children, and the like should be secured at time of the intake interviews. Each woman counselor, under the head of women's personnel, should help to keep the records current and be provided with a duplicate of the complete record of each of the women in her charge. Data the counselors can supply relate to the job and its performance, wage status, absences, transfers, grievances and their settlement, and so forth. There should be periodic transfer to the master file of medical, accident, and training data. The material on each record card and correlation of the data can be tremendously illuminating in all phases of the work with women personnel, including, for example, job placement, transfers, promotion, and investigation into absence and turn-over.

The factory or shipyard is not located in a vacuum, nor do the affairs of its workers begin and end with the 8-hour shift. There are many ways in which outside influences aid the worker on the job or lead to discontent, absenteeism, turn-over, and other production saboteurs. The lack of adequate housing, recreation, transportation, and child-care facilities are among outside influences that affect women workers the most. It should be the responsibility of the women's personnel officer to work with the community agencies that have jurisdiction over such matters in the effort to promote introduction of community facilities that may be lacking or the reorganization, perhaps the extension, of those not serving adequately if at all the important needs of significant numbers of women workers. Careful survey of the women factory employees may reveal, for example, the need for more nursery schools in some areas while there are too many in others, for their earlier opening and later closing, or for an after-school-care program. The chief of women's personnel can be influential in making the facts known and securing action. In conference with the USO, Y. W. C. A., directors of Federal Government housing projects, and others, she can lend her assistance in the expanding of recreational facilities to include activities suitable for women and adjusted to their hour schedules. By the enlistment of civic support, the merchants of the town may be persuaded to sacrifice a morning and keep their doors open one evening a week to accommodate the busy day-shift. These are examples of some of the community affairs with which a women's personnel officer can profitably concern herself to secure better adjustment of her women workers to their jobs and consequently more nearly maximum production. She may also learn from the outside agencies with which she maintains contact ways in which the plant itself can make accommodations and introduce facilities that will temporarily relieve community limitations or serve to supplement them. Rationing bureaus and room registries are examples of such services.

### HER QUALIFICATIONS.

To perform these duties it is recommended that the women's personnel executive shall have had experience in industrial work and labor relations affording her some practical knowledge of personnel management and labor and factory economics. In factories with union agreements it is well if she is acquainted also with the organization, functions, and activities of unions in general and particularly with those prevailing where she is to accept an official post. It would of course be best if she herself had experience with working in or with unions. An educational background that has afforded a theoretical basis for all these things is an important complement to such practical experience. As a personnel executive, she should also have thorough knowledge of the work operations in the plant or yard and the conditions under which they are performed, if possible with first-hand acquaintance with women's jobs.

The remaining qualifications that appear necessary for performing her work successfully are chiefly personal. The most important, besides good health, are such anomalous but precious traits as good common sense and judgment, leadership and organizing ability, initiative, imagination coupled with good practical sense, equable temperament, humor, and ability to work well with others.

Some of the qualifications named cannot be acquired until the head of women's personnel has taken her post, unless she has had experience in this or some other factory. This is especially true of acquaintance with the operations and specific jobs in a shipyard and perhaps of knowledge of the labor organizations with which she will have contact. It is advisable, therefore, to accept for the position a woman who meets most of the qualifications, but especially those that cannot easily develop from experience in the yard or factory. This places the emphasis on personal qualities, educational background, and industrial experience, and assumes the energy, willingness, and ability to learn quickly those practical aspects of the work with which the applicant is not familiar.

## THE PERSONNEL COUNSELORS.

Decentralization of the personnel function involving the appointment of counselors to assist the chief of women's personnel makes possible more thorough attention to the needs of women employees and their work supervisors and a greater spread of the services that can be rendered. Experience has proved that few new workers will go to a central personnel office distant from their shops. The personnel representative must be stationed where women are at work.

The important consideration in assigning the personnel counselors, besides matters of background and personality, is the necessity that representation from the women's personnel office be provided within each shop, for each of the shifts, and over all parts of the plant or yard and docks where women work. There should be no important hiatus in this representation, for serious problems may stem from inadequate supervision, especially in the first months of women's employment and when women are working in small numbers in isolated places. It has been found in practice that a relatively large number of women, certainly as many as a hundred, can be handled by one counselor when all the women workers are together within a shop, as in the machine shop; but in the case of the public-works department in shipyards, where women maintenance employees work all over the yard, a greater number of personnel counselors are required for the same number of women workers. When a group of women from different shops or departments are working on board ship, a woman counselor without specific shop assignment should be provided. It is recommended that when many Negro women are employed, a Negro assistant be added to the personnel staff.

Women personnel counselors have been rendered ineffective in some concerns because their duties and authority had not been clearly defined by the main personnel office. If the personnel program with women is to meet with success, the functions and status of the women counselors, as well as the limits of their authority, should be well understood by them and by all the production supervisors and employees, men as well as women. Their position, furthermore, should command respect and be attended with adequate authority for effective action derived from the central personnel office. In general, the arrangement that has been found most satisfactory is one in which the personnel counselors are concerned only with problems that do not pertain to the performance of the work itself and in which their function is advisory to the job supervisors. They serve to bring supervisor and workers closer together.

It is a mistake to give certain women production workers counseling functions setting them apart from and above their fellow women operatives but giving them no additional claim to status. The counselor must stand outside the production system in order to view it objectively. Furthermore, personnel work in a plant employing hundreds of women is a full-time job and cannot be performed with any justice by women who are also responsible for production.

### THEIR FUNCTIONS.

Whether they conduct the intake interview themselves or receive applicants selected by the central personnel office, it should be the function of the personnel counselors and within their ability to aid the work supervisors in determining the suitability of women applicants for specific jobs. They should help also in completing the hiring and placement process, arranging for the workers' starting date, and similar details.

The induction and orientation of new women employees is an especially important aspect of the personnel counselors' job. When the training division is not organized to undertake part of the work of the woman counselor, the induction program in this regard should require, briefly, acquainting the women with shop or yard geography and with factory or shipbuilding processes and terminology; introducing them to their fellow workers and their work supervisors; making them cognizant of shop rules, of safety regulations and proper work clothing; informing them about wages, hours, and policies that cover training, promotions, transfers, and dismissals; telling them about means of securing transportation to the plant, and many other matters. Even if there is a manual covering these points, each item bears reviewing, and sufficient time should be given to the answering of employees' questions. Through this induction process the woman counselor has the opportunity of establishing herself as a friend of the individual woman worker, to whom the worker may come whenever she needs assistance.

Even when formal induction has taken place, the work of the women counselors should by no means be considered over with respect to orientating the women to their new job experience. This should be a continuing process. It involves careful follow-up of the new workers to help them make a satisfactory adjustment, develop good work habits, a constructive work spirit, and an attitude and sense of belonging in a cooperative enterprise. The counselors can be most effective also in helping supervisors to educate the women early in safe habits of work, including especially the conscientious wearing of proper work clothing. To carry out these duties effectively, the personnel counselors must be located in the shop and visit all workrooms and work stations frequently. In this way they are in a position to encourage women on the job, follow up transferred employees on a new job, and watch closely employees whose work or conduct is or has been unsatisfactory.

Assistance in arranging department and interdepartment transfers of women workers should be given by the women counselors. They should also cooperate with the job supervisors in the reassignment of employees in cases in which such factors as physical disability, vocational maladjustment, lack of suitable work, and the like may be involved. They are to lend aid to foremen and others in selecting women for promotion, upgrading, and retraining for new work. When employees are available for transfer who cannot be placed within the shop under their jurisdiction, the counselors should refer them to the central personnel office and advise the office as to the type of work for which they have shown aptitude. When discharge is indicated, the counselors should seek to avoid it if possible by bringing about readjustment or rehabilitation of the workers, but if this proves impossible, they should make the recommendation for discharge. Actual dismissal should be effected only through the central personnel office in close consultation with the head of women's personnel.

The women workers should be encouraged to take to the women counselors any problems they may have that affect their relation to the job, whether the matters involve shop, personal, or family situations. To perform their function in this regard, the counselors should be available for consultation at all times during normal working hours. When valid complaints or grievances about the work, shop, or yard are voiced, the counselors should interpret the needs and viewpoint of the women workers and act generally as liaison between the women and their foremen, or other supervisors, or help the union stewards in this. The counselor should, in fact, be equipped to make recommendations and in other ways assist in arriving at a satisfactory adjustment of women's requests or grievances.

The counselors should concern themselves with giving constructive aid to the women workers in situations that, though not directly related to the plant, nevertheless are highly important to morale and work performance.

This aspect of the counselors' duties may involve, among other things, helping to secure day care for children when regular arrangements have failed, aiding in the search for living accommodations, setting up car pools, or finding a nursing home for an ill relative. Assistance of this kind makes it immeasurably easier for the women workers to assume and carry out the dual role of worker and housewife and to adjust to the strange environment and work of the factory or yard. Where the personnel counselor is equipped to do an intelligent job of this kind she can bring to the women under her a sense of security, relieving them of strains and anxieties that very seriously affect their production, interfere with their attendance, and cause them to leave their jobs.

Their knowledge of work processes and women's capabilities makes the women counselors especially helpful in finding ways of extending women's employment through the shop and advising the supervisors and personnel office accordingly. It is desirable that they be equipped also to check on new jobs proposed for women by others and to assist in determining their suitability. In this general connection, the counselors should be on the alert for ways in which the jobs women already hold could be replanned, rearranged, or reengineered to reduce fatigue and contribute to more efficient performance.

Complete records should be kept by each counselor for every woman under her direction, and the central personnel office should be notified of changes and additions that should be recorded in the master file. Records that are current and complete, including information on education, experience, home responsibilities, health, and the like are necessary background for intelligent counseling and constructive service alike to management, to job supervisors, and to women workers.

It will be necessary in some plants for the counselors to supervise the maintenance and use of the women's rest room, washroom, and cloak rooms. This should be done only to make certain that the women's facilities are adequate and are kept clean and in good repair, and to follow up certain of the workers who may be abusing their privileges or who may require help or attention. It should not be carried out as a general policing function nor should the counselor be charged with cleaning or in any way tending the washroom or rest rooms. Such capacities would detract from her status in the eyes of the women in her charge. Policing the washroom and rest rooms is wholly unnecessary under a wise personnel program that begins with good selection and involves careful induction and orientation of women, attention to their special needs, and effective counseling. Care of the women's facilities should be the function of the department of maintenance or the service department; occasional suggestions to and from the women's personnel office are of course in order.

Finally, the counselors should be free to offer suggestions to the chief of women's personnel and refer to her any cases on which advice is needed or on which action should be taken from the main office.

THEIR QUALIFICATIONS.

It is obvious that, to do their job well, women personnel counselors should be thoroughly acquainted with the work in the factory or shipyard and especially with the jobs in the shop or division to which they are assigned. This knowledge may be acquired as a worker in the ranks, if only for a few weeks. In any case, acceptance of the personnel job should involve sufficient preliminary training in production work to provide first-hand understanding of processes, personnel problems, and production details.

Very early, if the counselor has not already acquired the knowledge from employment in the factory in another capacity, she should become thoroughly acquainted with plant organization and policies. Here again it is important that she bring to the job practical experience in either industry or business, preferably in work involving supervision. In this way she will have acquired some facility with the problems of personnel and the techniques of supervision. General academic theoretical understanding of the work is also necessary, and this of course assumes education beyond high school.

The personality traits that have proved advisable in a personnel counselor have a wide range. They include emotional stability; the quality of leadership without officiousness; tact; resourcefulness; versatility; adaptability; good judgment; patience; a genuine interest in and understanding of people; good insight; a sense of humor; and a knowledge of when and how to compromise.

## PERSONNEL PROGRAMS IN PRACTICE IN SHIPYARDS

Field representatives of the Women's Bureau visited 41 shipyards in 1943, 35 of which had women on production. Nearly three-fourths of the latter, 26 yards, were already, at date of survey, employing 1 or more women to deal in some way with women's personnel relations. In most of these shipyards, a woman, with or without assistants, had the title if not always the authority of the head of women's personnel. There were only 2 instances in which the women personnel workers were women's intake interviewers with no other functions, and only 2 in which they were matrons charged solely with policing the women's rest rooms.

Nine of the shipyards visited had no women personnel workers. Five of these employed each from 700 to 2,200 women wage earners and were sorely in need of more adequate attention to women's problems for the sake of boosting morale and production. One was notorious for its deplorable working conditions and the poor spirit of its workers, features that inevitably are found together. The yard's reputation caused reluctance on the part of women in the town to answer the call for workers. Consequently, many of the women taken on are from out of town, complicating community and management problems immeasurably and leading to the employment of women who ordinarily would be unacceptable. A good many of the shipyard's difficulties might not have arisen had adequate selection of women been made at the outset and their adjustment and supervision been placed under the direction of a capable head of women's personnel. A belated effort was being made at time of visit (February 1943) to find a woman to accept the post. A person of adequate background, given sufficient authority, should be able to do a great deal to remedy matters, but the job is infinitely more difficult because of the poor beginning.

The women's personnel divisions in active operation varied considerably from yard to yard, differing chiefly in the freedom from rein and the well-defined authority given the women counselors and the approach to the personnel function, whether administrative and positive or disciplinary and negative. Only a few effective plans were in force at the time of visit by Women's Bureau representatives. Two were in United States Navy Yards. One of these was organized late in 1942, but another was set up in response to a circular letter issued in May by the Assistant Secretary of the Navy, establishing the positions of "personnel assistants" for women shop employees in Naval Shore Establishments. The positions were set up in 4 grades beginning with Junior Personnel Assistant at a $2,000 annual salary and allowing at the top for a Principal Personnel Assistant at $3,200. Description of the position for the first grade, that of Junior Personnel Assistant, follows:

Under general supervision of the Shop Master or his designated representative, serves as Personnel Assistant for shop supervisors in a shop employing a small number of workers, or as an assistant to the leading Personnel Assistant in a shop employing a large number of workers.

Performs under general supervision a limited number of the following duties to assist shop supervisors in handling personnel problems, particularly these concerning women shop employees: assists in the introduction of new workers to shop employment - location of time clocks, proper muster, identification badges, location of lockers, cafeterias, rest rooms, etc.; instruction in shop safety rules, safe working practices, and proper work clothing; explanation of shop and yard regulations concerning attendance, sick leave, conduct on the job, etc.; assists supervisors in proper placement and transfer of workers in employment for which they are best fitted; assists in follow-up to prevent or correct tardiness, irregular attendance, improper conduct on the job, loafing, wastefulness, etc.; assists supervisors in personal problems of women workers concerning health, transportation, housing, rationing, etc., and advises employees as to the various services in the yard available to them in these and similar matters; assists supervisors in handling grievances and complaints of women workers; other similar duties as assigned.

**The Principal Personnel Assistant carries the following responsibilities:**

Under general supervision of the Personnel Relations Officer, serves as the coordinator of the work of all women Personnel Assistants at a large Navy Yard.

Responsible to the yard Personnel Relations Officer for developing and putting into operation the program for women Personnel Assistants in shops where women are employed in industrial work.

Assists Shop Masters in the selection and training of women Personnel Assistants in the shops; instructs, guides, and advises women Personnel Assistants in their major problems and in the general conduct of their work.

Conducts meetings as necessary of all women Personnel Assistants for discussion of women employees' problems and the proper steps to be taken in their solution.

Assists and advises the Personnel Relations Officer in the over-all planning and coordination of employee relations work affecting women shop employees.

These position descriptions briefly summarize an organization for women's personnel work that should meet success not only in the Navy Yards but in any large shipyard expecting to employ numbers of women in industrial work. Two things the new policies indicated are expected to overcome in those Navy Yards without adequate women's divisions are the frequently encountered objections of shop masters to introducing women counselors, and reluctance on the part of shop supervisors to allow women counselors already employed any authority or backing.

One Navy Yard had organized an adequate women's program several months before the Assistant Secretary's circular letter was issued. This was done, however, after 3,000 women already were employed and a difficult situation had arisen revealing strain and conflict between the new women employees and their supervisors and fellow workers. The men had not been made fully aware that the women had to be depended on for production and little attention therefore was being paid as to whether the 3,000 women did or did not build ships. It became apparent that a liaison had to be introduced between the men supervisors and the new women workers. A yard coordinator for women was appointed to work out over-all policy and a program to meet the problems that had arisen. Though final approval of her program and policies was subject to strict military and civilian inspection, she was nevertheless given broad powers and discretion in developing plans. The resulting organization elicited this comment from the Women's Bureau field representative who visited the yard: "The system of women coordinators which has been devised is one of the most effective observed in any of the war industries visited." It had flaws of which the yard coordinator was aware, but efforts were being made to correct and change methods as conditions warranted. Furthermore the whole attitude of the yard was one of eagerness to take full advantage of professional criticism and recommendations and to make practical changes.

It is to be hoped that each of the Navy Yards, with the Assistant Secretary's sound recommendations for strengthening personnel work with women in Naval Shore Establishments as a guide, will set up an effective women's personnel organization to meet its particular needs. This is especially important since the eight Navy Yards building and repairing ships, only a fraction of the country's shipyards, nevertheless employ a large share of the total women wage earners in the industry, a share, in fact, out of all proportion to their small number; it amounted to nearly a fourth in March 1943.

There are many more private commercial yards, their problems differing considerably one from another depending on their size, their location, the age and adequacy of their plant, the labor supply in the area, the kinds of ships they build or whether or not they repair ships. The Navy Yards, in contrast, are fairly uniform. They are all large and old yards that are repairing ships as much as or more than building new ones. They ordinarily do a great deal more work under cover than the private yards because of excellent plant accommodations. The private yards run the gamut in all these matters and therefore it is much more difficult to generalize about them. Most of those visited appeared to be doing a mediocre or poor personnel job with women; but some were found to be doing a most noteworthy job. For example, one with fewer than 200 women operatives had a capable woman personnel officer in charge who was assisted by a secretary-interviewer and a field representative. The women's division handled women's intake and exit interviewing, induction of women, adjustment of complaints and grievances, investigations of new jobs for women, follow-up, transfers, discipline, and other matters pertaining to women's adjustment to the yard. Among other things, the woman executive had developed a good record keeping system, the function and value of which she understood thoroughly. She had trained her field representative as a competent contact person for the central office, introducing new women workers to their jobs, following them up, making daily contacts with the women's foremen as girls were placed or transferred, reporting daily on the jobs available for women in the yard and shops, handling disciplinary problems, and keeping daily and weekly records of absence, separations, and accidents. Though large-scale expansion in women's employment was expected momentarily at time of visit, the well-organized personnel department was equipped to meet the problems that inevitably would arise, thus saving production time and turn-over.

In another private shipyard employing nearly 1,600 women in the summer of 1943 a similar organization was in force but without such smooth functioning. Its intake and placement procedure was especially satisfactory. The chief weakness was the lack of follow-up of women workers on the job; only problems so pressing as to reach the central office were attended to. The 2 field representatives working out of the personnel office were given little authority beyond fact finding, and in any case were too few to shoulder counseling responsibility for so large an employment load.

It is to be expected that examples of the weaker or more imperfect approaches to the personnel function with women are the more easily found. The shipyards are still feeling their way. Women have been part of the picture less than a year in most cases, and consequently perfection can hardly be expected. It is more economical, however, to learn from others' experience than to muddle through. It is for this reason that a few examples of poorly organized personnel work with women are presented here.

In one yard the woman personnel counselor in the main office was too young and ineffective for the post and the matrons employed in each department of the yard where girls were working had as their sole responsibility checking to see that the workers did not congregate to chat or smoke in the rest rooms. This was a fruitless and negative way of dealing with the nearly 550 women operatives employed. Policing has been found less effective than counseling as a method of teaching employees good work habits. It was promising, however, that the chief personnel officer, a man, was considering at time of visit hiring as his assistant a capable and efficient woman to take over the women's program.

Perhaps the most frequently encountered cause of failure in the women's personnel program is the fact that too little cooperation and responsibility for shaping or carrying out major programs affecting the women workers is given women personnel counselors. A Women's Bureau field representative reported of a woman personnel executive and the woman interviewer under her in a large east coast yard that "their . . . authority is not very strong, and they are following rather than helping to form policies or procedures . . . it is probably no accident that the person selected as 'dean' appears to be lacking confidence and experience."

The situation in a west coast shipyard is described by a Women's Bureau representative as follows:

> There is no clear-cut line of duties and authority. Miss X, who is supposed to be in charge of the entire women's employment program in all the________yards, is more of a public relations person than coordinator of women's counselor functions. Her activities are concentrated more on outside contacts and she has little knowledge of the problems of the women in the yards. Hence, there is no central direction as to what the women counselors in the shops can and cannot do.
>
> The women counselors who are most effective are those who have somewhat "bluffed" their way through, and made foremen and yard people think they had authority when actually they had not. However, most of the activities of the counselors center around office work, and they have little contact with women out in the yards.
>
> The women safety inspectors, on the other hand, are out in the yard constantly. And, it has developed, that they are counselors as well as safety inspectors because of their day-to-day contacts with the women on the job. Consequently, a friction has arisen between the two groups.

The chief women's counselor in another yard had to struggle with her immediate superior in charge of employee relations about every action she wished to take in the women's program. In still another case a woman with good background and a variety of experience reported that the shop and department supervisors refuse assistance from the main personnel office. Consequently, new policies affecting women workers had to be submitted to them with the utmost tact and in trepidation for the outcome. The woman personnel officer could accomplish little except by indirect approach even with the main personnel office. She had to grope her way and consequently felt most insecure in her poorly defined position. Yet she was well equipped to do an intelligent and worth-while job in women's personnel relations in this large yard employing nearly 1,500 women productive workers.

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National Industrial Conference Board. *Women in Factory Work.* New York, 1942. 52 pp.

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*Personnel Journal.* Published monthly (except July and August) by Personnel Research Federation, 60 East 42d Street, New York City.

Roethlisberger, Fritz Jules, and William John Dickson. *Management and the Worker.* Cambridge, Mass., Harvard University Press, 1939. 615 pp.

Schultz, Richard Samuel. *Wartime Supervision of Workers; the Human Factors in Production, for Executives and Foremen.* New York, Harpers, 1943. 206 pp.

Spriegel, William R., and Edward Schulz. *Elements of Supervision.* New York, John Wiley and Sons, 1942. 273 pp.

Tead, Ordway. "Employe Counseling: A New Personnel Assignment - Its Status and Its Standards." *Advanced Management*, Vol. VIII, No. 3, July-September, 1943. pp. 97-103.

U. S. Department of Labor. Women's Bureau. *Women in Personnel and Industrial Relations Work in War Industries.* March 1943. Mimeographed. 16 pp. and appendix.

U. S. Navy Department. *Employment and Supervision of Women in War Industries.* Washington, D. C. June 28, 1943. Mimeographed. To be used in connection with training programs for supervisors.

Von Miklos, Josephine. *I Took a War Job.* New York, Simon and Schuster, 1943. 223 pp.

Yoder, Dale. *Personnel Management and Industrial Relations.* New York, Prentice-Hall, 1942. 848 pp.

*See also* the following publications of the U. S. Department of Labor that will be helpful to counselors wanting information on standards relating to working conditions:

Division of Labor Standards. Special Bulletin No. 13. *Wartime Working Conditions*, 1943. 25 pp.

Women's Bureau. Special Bulletins. 2.—*Lifting Heavy Weights in Defense Industries*, 1941. 11 pp.

3. *Safety Clothing for Women in Industry.* 1941. 11 pp.
4. *Washing and Toilet Facilities for Women in Industry.* 1942. 11 pp.
5. *Women's Effective War Work Requires Time for Meals and Rest.* 1942. 4 pp.
6. *Night Work for Women and Shift Rotation in War Plants.* 1942. 8 pp.
9. *Safety Caps for Women in War Factories.* 1942. 4 pp.
10. *Women's Effective War Work Requires Good Posture.* 1943. 6 pp.

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

# WOMEN'S BUREAU WORK AS TO THE POST-WAR SITUATION FOR WOMEN

The Women's Bureau is well aware that the situation for women workers will be largely influenced by general economic conditions in the country as a whole and the extent to which major employment policies can be developed. It will be influenced by the extent of demand for the types of goods and services, production of which is especially suited for women's work. With these limitations in the background, the Women's Bureau is undertaking certain lines of study intended to help mark out the place of women in the post-war world:

1. A field study to give indications as to the plans and wishes of the women themselves, and as to the extent of women's responsibilities for the support of their families. (See attached)

2. The Bureau of the Census has been asked by the Women's Bureau to provide special figures indicating the present labor force status and occupations of women by their occupations before Pearl Harbor and whether or not they were part of the labor force before the war, together with their ages and marital status.

3. Certain lines of employment are to be investigated in an effort to determine whether they will be developing lines of employment for women after the war.

4. As a background to the study being carried forward, the Bureau will shortly issue a small bulletin designed to state in a popular form the problems women may be expected to face, with something of the general situation which may be expected for them. This will have the purpose of focussing attention toward the problems of women and giving a background for the consideration of these problems.

February 1944

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

# STUDY OF WOMEN WAR WORKERS' NEEDS
# IN THE COMING TRANSITION PERIOD

Studies designed to aid women workers with their adjustments in the transition period after the war should consider plans of the women themselves in the light of the economic responsibilities that they must carry.

## Women Permanently in Labor Force Before War

Before the war some 13 or 14 million women were regularly in this country's labor force. In fact, nearly one-fourth of all persons employed before the war were women. Many of these have shifted into fields of work different from those in which they had been engaged. Other women have newly entered employment.

All told, war demands have brought the number of women in the labor force up to well over 17 million. Some of these women already are being laid off in certain areas, while in others there still is a shortage of women workers. At the close of the war, it is likely that many more women will lose jobs.

## Women in Labor Force After the War

Many of the women who have taken jobs during the war will want to return home after the war. But as just pointed out many were a permanent part of the labor force before the war, and others must continue as workers. Even as early as 1930, the great majority of our larger cities had more women than men in their population. This situation is likely to be a growing one. It is plainly one that requires many women to continue as earners. After the war the permanent labor force may include 2 or 3 million more women than in 1940.

## Importance of Planning Now for Post-War Needs

America's victory will be measured chiefly by our ability to perform an orderly transition. The extent to which this country can set its own economic house in order will be a large determinant in assuring the objectives for which we are fighting and in securing future peace.

## The Present Study

Women war workers must be helped to adjust, to find other employment or new lines of work if necessary. Background information as to the economic problems they must cope with is important to enable their needs to be met by wise policies, and to aid the public in understanding their permanence in the labor force. This study seeks to find out from these women:

under1.

Whether they are normally a part of the labor force.

If new workers, whether they expect to remain in the labor force or to return home.

Whether they desire work of the type they are now doing or wish a different type of occupation.

Whether they have come into a new community for war work, and whether they desire to remain there, to return to their former home, or to go elsewhere.

What their economic responsibilities involve, the extent to which their earnings are necessary for support of their families.

Where the women visited make comments of value in the foregoing questions, these will be of importance in rounding out the broad picture of the needs of women war workers in the transition period.

January 20, 1944

# REPORT ON

# SERIES OF FORUMS FOR GRADUATE STUDENTS

## "THE PLACE OF WOMEN IN WORLD AFFAIRS"

COLORADO STATE COLLEGE

FT. COLLINS

July 11 - 12, 1944

Elsie I. Wolfe

# Outline of Speeches — Elsie I. Wolfe

## Subject - Economic Changes and Family Life

3 p.m. — July 11, 1944

A. Historical background in half century periods:

1790 - Families were self contained economic units.

96 out of every 100 persons lived on farms or in villages where farming was the chief occupation.

The men and women developed their own set of political and economic ideas out of their own experiences.

1840 - Pattern of living changed somewhat but most people still worked on farms part of the time.

New forces causing economic changes:

1. Inventions and use of machines, particularly in spinning and weaving.

2. Rising tide of immigration.

3. Opening up the frontier
   2,000,000 square miles added from 1790 to 1848.

4. Beginning of the Labor Movement.

1890 - The factory had displaced the farm as the main source of family security by 1890.

Many changes, both political and economic, took place between 1840 and 1890.

Important factors:

1. Civil War
2. New inventions
3. Development of large industries and corporations
4. Development of large cities
5. Development of population
   Increased from 17,000,000 in 1840, to 63,000,000 in 1890.
6. Rising tide of immigration
7. Growing labor movement
8. Beginning of Employer's Associations
9. Smaller families — children were no longer an economic asset.

1940 - Industry now determines the security for farmers and city dwellers.

Less than 1/5 of the 50,000,000 gainfully employed or seeking work in 1940, were engaged in farming.

America had become an urban and industrial nation.

Immigration Act of 1924 slowed up population increases.

Mass production brought higher standards of living, resulting in greater need for cash earnings.

Families were smaller — average 3.8 persons per family in 1940.

Depression following crash of 1929.
Important facts concerning this period.

1. A depression today affects agriculture almost as much as it does industry.

2. The purchasing power of all people is important to the stability of our economy.

3. Our system of Free Enterprise was challenged by economic systems of Communism, Facism and Nazism.

4. A wider acceptance of the principles of Collective Bargaining.

B. Women's Part in the Industrial Development of our Country:

a. Transfer of women's work in the home to the factory

b. Effect of machines on women's employment.
Manufacturers looking for factory operatives turned to women for following reasons:
   1. Cheap labor
   2. Type of job — "women's work"

c. Economic necessity for most women to work in order to supplement husband's wages. Need for cash increased as more and more household products were made in factories.

d. Women's wages were looked upon as extra spending money — not as earnings on which she had to support herself. This idea on women's wages has been carried over into our present economy.

e. Equal Pay policy advocated by Women's Bureau for many years.

f. Women relatives became Surplus Labor in many families after invention of Labor Saving Devices.

g. Effect of War on women's employment
   Civil War
   World War I
   World War II

C. Conditions of Work affecting family life of Women Workers today:

1. Long hours of work (10 hour day)
2. Rotation of shifts
3. Improper seating
4. Heavy lifting
5. Lack of rest periods in some plants
6. Inadequate diet of women workers
7. Family laundry, cooking, etc.
8. Child Care
9. Transportation difficulties
10. Shopping difficulties

D. Influence of Economic Changes on Family Life:

1. Home is no longer a complete economic unit.

2. Smaller families

3. Change in economic status — increased pay brings independence and freedom.

4. More and more women are heads of families — 5,300,000 women were heads of families in 1940, according to Census Bureau.

E. Reasons why women must work in the Post War World:

1. Many of the husbands will not return.

2. Wives and women relatives of disabled veterans will have to support them.

3. Some women who normally would have married will continue to earn their own livelihood because there won't be enough husbands.

4. "Right" to work must be considered.

F. Constructive Action needed to lessen fatigue of Women Workers in our Post War World:

1. Improvement of working conditions within the plants.

2. Improved community facilities for:
    a. Child care
    b. Prepared meals - (Example, Detroit)
    c. Shopping service
    d. Laundry and household help

# Outline

Subject - "World Changes as they Affect You"

8 p.m. - July 11th

A. America's place in the new World Order

  a. Airplanes have brought nations and people closer together.

  b. Service men and women will have seen the world. They will have changed attitudes concerning our "neighbors".

  c. U. N. R. A. and its effects — good and bad

  d. Economic struggle for markets and power.

B. Post War Rehabilitation of:

  a. Veterans including WACS, WAVES, etc.

  b. Housewives who have been working outside the home

  c. War brides traveling over the country.

C. The Answer — Employment for All

  a. Must remove "Fear of Want" if democracy is to survive.

  b. Report on Health of the Nation by General Hershey —
  1/3 of the population is physically unfit.
  "This condition is a threat to the survival of democracy."

  Figures show:
  4,217,000 men classified as 4F.
  16% - mental diseases
  13% - mental deficiency
  57% - physical defects.

  Mr. Hershey likened the figures on rejections to an iceberg with only a small part showing. The real danger lies below the surface in the civilian population.

  Some of the Causes as I see them:

  1. Low wages in many industries (B.L.S. reports on Service Industries.)

Causes (cont'd)

2. Results of low wages:

    Inadequate diet
    Poor housing
    Long hours of work causing undue fatigue
    Inadequate medical care
    Immoral conditions

D. Duties and Responsibilities of Women and All Citizens:

a. Greater interest and participation in Civic and National Affairs

1. Begin with your local community and work for improvements in:

    Schools
    Public Health
    Recreational facilities
    Child Care for mothers who must work
    Churches.

b. Interest in different racial or national groups included in the population of your town:

1. Are you helping them to become a part of community life?

2. Are they represented on committees planning for their welfare — housing, recreation, etc.

These foreigners have a contribution to make if we allow them.

Reference: Two Way Passage - Louis Adamic.

3. Are you willing to give them economic equality — a right to a job for which they are qualified?

c. Interest in all worker's problems:

If democracy is to survive, the middle class — you and I — must concern ourselves with these problems because they affect the well being of the entire community.

1. Are you willing to accept labor unions as part of the Community Pattern?

Quotation from Mr. Abranson, Chairman of National C.I.O. War Relife Committee: (Speech in Cleveland)

"Labor is no more, nor is it less, a part of society than any other economic or professional group. Labor's contribution

Quotation - Abranson, Chairman, National C.I.O. War Relief Committee (cont'd)

and its responsibilities to society must be toward the common weal of the people as a whole. The worker who is a member of a labor organization is the same person who is an air raid warden in his Community. He goes with his family to church on Sunday, belongs to the "Y", and is the fellow you see walking on Main Street, Saturday night (if he isn't on 3rd shift). He is part of the community and expects to assume his share of community responsibility.

On the other hand, he expects his organization to take a vigorous part in the battle for a better life, and to that extent the Union has an obligation to carry on that fight for him."

# Outline

## Subject: Social Changes and Family Life

3 p.m., July 12th

A. Historical Background:

a. Effect of machines:

Change from hand to machine manufacturing not only revolutionized women's economic place in society but made profound changes in her social status.

Factory employment broadened her social horizon. She made new friends, had new interests.

Social standards for behavior of women were based on the fact that women's work and place was in the home.

b. Development of Higher Education for Women — an important factor in Social Changes.

In 1833 Oberlin College in Ohio opened to women — first coeducational college in the world.

c. Invention of Telephone, Telegraph and Typewriter caused social as well as economic changes.

B. Effects of Wars on Social Codes for women:

Unnatural conditions hasten social action. Time is an important factor that governs action — gradual natural development gives way to rapid changes, both social and economic. These changes are accepted as war time evils.

Examples:
War time marriages.
Employment of negroes and other minority groups, even women.

Social changes brought about by:
Civil War
World War I
World War II

C. Effects of Social Changes on Family Life:

1. Increased Divorce Rate
Note: New decree in Russia tightens divorce laws, 7/12/44.

Reasons for increased divorces:

a. Changed attitudes of men and women after marrying. No longer necessary to live in misery. Women are unwilling to accept certain conditions once accepted.

2. Women are more independent — more resourceful.

3. Women are taking more interest in World Affairs.

4. Women have a better understanding of husband's work, how tired he is at end of day, etc. They have a greater appreciation of the home since the war.

5. War brides from all parts of the world are introducing new customs, habits, prejudices, etc.

6. Children are more frequently neglected — a debatable question.

7. Increase in drinking and smoking within the home.

D. Effects of "Economic Equality" for Racial Groups on our Family Life:

1. Fear of inter-marriage on a large scale is unfounded. Racial groups prefer marrying own people. ?

E. Discussion on Nationwide survey, "What About Women" in June 1944, issue of Ladies' Home Journal —

Questions ask Women Workers:

1. Do you plan to stop working after the War:
"Yes" - 44%
"No" - 47%
"Don't know" 9%

2. If there aren't enough jobs to go around after the war, should men be given job preference over women who have no other means of support?
"Yes" - 32%
"No" - 60%
"Don't know" 8%

3. Does your husband help with the housework?
"Yes" - 59%

4. In your own case, does working make your life more enjoyable or less enjoyable than staying at home?
"Yes" - 79% of all women in war plants
- 70% of married women with children
- 83% of married women with no children
- 85% of single girls

5. Did your husband approve of your taking a war job?
"Yes" - 80% of married women in industry.

6. Do most of the men you know think it's all right for wives to have jobs, or do they prefer to be the only wage earner?
"Yes" - 50%
"No" - 35%
"Don't know" 15%

7. How many children do you think an ideal family should have?

The median answer for all women in industry is 3 children, but this varies in the age groups. Women between 25 and 34 (the group most likely to have children) say three, but those over 35 look back and wish for more. Married women with children also say four is an ideal number. The mother of 9 said, "Seven, eight — or possibly nine".

8. Should women receive the same rate of pay as men for the same job?
"Yes" - 90%
"No" - 10%

9. When a man brings in all the income, do you think he has more right to be boss of the home than if the wife helps to earn the living?
"No" - 71% of all women workers
- 75% of married women
- 65% of single women
- 74% of high-school and college graduates
- 69% of those with less than high school education

10. In the case of the wives who stay at home, should their husbands give them a certain amount of money each week to spend on themselves?
"Yes" - 87%

11. When a wife has a job, do you think her husband should help with the housework or do you think the housework is entirely the wife's responsibility?
"Yes" - 83% of all women in war plants
- 88% of married women
- 78% of single women

12. After the war there will be fewer men. The competition for husbands will be keener. Other things being equal, do you think men will be more likely to choose the girl who is prettiest, the best homemaker, or the one who has the best job?
61% - Best homemakers will get the husbands
12% - Prettiest girls will get the husbands
6% - Girls with the best jobs will get the husbands
21% - Don't know

13. What should a woman do who has a job and makes more money than the man she wants to marry? Should she give up her job or keep it?
40% - give it up
37% - keept it

14. If a woman saw that having a job was making her marriage less happy, what do you think she should do?
91% - quit the job
4% - quit if financially able
2% - keep the job
2% - depends on which is more important
1% - don't know

15. If you had to give up your job to get married, would you do it willingly to please your husband?
"Yes" - 70%
"No" - 10%
"Don't know" 20%

16. Do you look forward to a time when you can give up your job and stay home and take care of home and children, or would you prefer to turn your children over to a day nursery?
75% - look forward to going home
13% - prefer to keep job
12% - don't know

17. Does working make you more anxious to spend off hours getting out for pleasure or staying at home?

"Home is the only place these days", a Chicago mother of 9 answered for the majority of mothers. "It's my duty to be home with my family in the evenings and on Sunday". But a professional woman in Richmond, Virginia, factory for the duration disagreed. "I have to get out for recreation. Working in a factory makes me dull."

18. Are husbands and wives who both work better companions than if the husband is the only wage earner?
"No" - 51% of women in war plants
"Yes" - 30%
"Don't know" 19%

19. When a wife is earning her own money, do you think she is likely to be more careful in the way she spends it?
More careful — 52% of married women
49% of single women

"The JOURNAL survey clearly indicates that women want marriage and homemaking, not factory jobs; that they work in industry only because they have to or for an emergency; that they want man's wages as long as they do a man's work".

**NOTE:** Answers to questions do not bear out conclusion drawn by author ——what about questions #1 and #3?

**NOTE:** Graduate students come from many different states. The majority are Home Economic teachers or supervisors. The faculty believes they should have a broader knowledge of women workers and their problems, hence the request for Women's Bureau participation.

**COMMENT:** The friendly spirit and hospitality of the faculty members of Colorado State College deserves honorable mention. I would like to express my appreciation for their kindness and cooperation.

U. S. DEPARTMENT OF LABOR WOMEN'S BUREAU

# Work For Women After the War

In the war period over 7 million women not employed before have gone to work, chiefly in factories, services, offices, professions, and on farms. Some have left the labor market, many have changed occupations. Over 19 million women were in the peak labor force.

Close of the war will bring to an end, often quite suddenly, much of the activity in which these women have engaged in some of the major war industries, such as making ammunition, guns, ships, aircraft, parts. What will happen to these workers?

Many women will not want to continue in the labor force. Many others need to work. In fact, *before the war women made up about one-fourth of the labor force.*

The opportunities for women's work will depend first of all on available jobs. *Employment for all* who need to work—men and women alike—is the afterwar goal that *must be planned for now and attained.*

This country must use effectively the skills of women workers, demonstrated during the war.

Wise policies for the period of change from wartime to peacetime production must be worked out by cooperation of unions and employers (in manufacturing, business, service industries, agriculture), with the aid of Government. These should include use of women's skills, full seniority for women, shortened work hours, equality in training, pay, and job advancement, adequate insurance for jobless women. *Organized women should share fully in this planning.*

*The Four Freedoms must be assured in American economy at home, as well as in the world at large.* An important measure of this is in whether all workers can get jobs.

## WOMEN, LIKE MEN, NEED JOBS—FOR FAMILY SUPPORT

There are more women than men in the population.

Even before the war, a fifth of the women workers were the principal wage earners in their families.

Even before the war, women made up a fourth of this country's work force.

## FACTS THAT WILL HELP WOMEN TO GET JOBS:

*Women have developed special skills* in war-work processes that call for nimble fingers, delicate touch, dexterity, and perseverance.

*Industries will need women* in jobs that in past years long have employed them.

*Employers want to keep women* on some kinds of work. They have found women effective workers, careful of materials, causing less spoilage than before, good at following instructions. Women truck, bus, and cab drivers have superior safety records.

*Many plants have been engineered to fit women*, with machines and benches suited to women's height and strength—lighter jigs, dies, fixtures, and parts, automatic stops, new machine guards, lifting devices, special job rotation.

## FACTS THAT WILL CREATE DIFFICULTY FOR WOMEN WORKERS:

Women have newly entered many of their present jobs.

They have not yet built long seniority records.

Some union contracts do not protect their seniority.

Old traditions as to women's work still persist in the minds of some: that they work for pin money, though facts show that great numbers must support themselves and others; that their place is in the home, though much production and service formerly done at home now is done outside.

## TYPES OF WORK THAT WILL NEED WOMEN

In producing consumer goods, where women long have been employed, as in the electrical, shoe, textile, food, jewelry, and other industries.

In the manufacturing of goods to help in the reconstruction of devastated countries, as well as the replenishment of depleted stocks in this country.

In assembling parts of radios, autos, instruments; in inspecting; operating machines; fabricating steel and plastic products. (Before the war, iron and steel had nearly 70,000 women wage earners.)

In various selling trades, and in service industries, where shortages will continue to be acute, as in restaurants, laundries, households.

In various business and clerical operations, as in secretarial work, statistics, and accounting.

In specialized technical and professional work, as in plant laboratories, nutrition, medicine, education, rehabilitation of handicapped, research, and various scientific services.

In community and social security services, as in health, welfare, child care, and recreation.

### WOMEN SHOULD:

Develop their own skills as far as possible.
Learn more of the economic questions affecting them.
Be active in unions and professional organizations.
Help to develop an economy that will provide full employment for all who need to work.

## THE WOMEN'S BUREAU, U. S. DEPARTMENT OF LABOR SAYS:

Women, like men, need jobs to support themselves and their families. This country must use effectively the valuable skills of women workers, demonstrated markedly during the war period.

Displaced war workers, both men and women, must be placed in new jobs. Women must be accorded opportunities for—adequate training; advancement in work according to ability; equal pay; a share in making policies related to their work and to American life.

## THE WOMEN'S ADVISORY COMMITTEE OF THE WMC SAYS:

Prospects for job security and other new job opportunities after the war are as important to women as to men. The American people, therefore, must demand consideration of the status of women in all postwar plans. This consideration is important to the war effort now, and it is socially desirable for the postwar period.

## THE INTERNATIONAL LABOR ORGANIZATION SAYS:

In accordance with the consistent policy of the International Labor Organization, it is suggested that the redistribution of women workers in the peacetime economy should be organized on the basis of their individual merit, skill, and experience.

## THE NATIONAL WOMEN'S TRADE UNION LEAGUE SAYS:

Some women will go back to the home, but most women now at work will not—because they can not. They too, like men, must have jobs to earn and live. Lose no time in finding solutions to women workers' present problems, but even as you concentrate on the present you are forced to keep an eye on the future. Tomorrow has an inescapable way of becoming today.

*September 1, 1944*

(WB 45-29)

# *Attack*
# *TURNOVER*

YOU → in the Plant
→ in the Union
→ in the Community

## *Help her Stay on the Job!*

UNITED STATES DEPARTMENT OF LABOR
Frances Perkins, Secretary
WOMEN'S BUREAU
Frieda S. Miller, Director

# Help Her Stay on the Job!

## *Why Now?*

**WHEN** the Government is cutting back war production, when thousands of women war workers are being laid off their jobs--You ask, is turn-over still a problem?

**THE** answer is "Yes"! Increasing turn-over rates threaten the advance on the battlefronts. Much of our labor reserve is womanpower, yet thousands of women are going back home convinced that we're "over the hump." Others are giving priority to their post-war security--those women are returning to peacetime jobs even at the cost of a 60-day lay-off.

**THIS** war is not yet won! Now is the time to mobilize your plant, your union, and your community strength for an all-out attack on labor turn-over.

# Help Her Stay on the Job!

Why does she quit her job?

The story in statistics.

YOU--in the PLANT
Are you helping her stay on the job?

Is all the hard work necessary?

Does the job fit?

How was she introduced?

Are you proud of her working conditions?

Who knows her triumphs and her troubles?

YOU--in the UNION
Are you helping her stay on the job?

Let women speak too!

What about her morale?

YOU--in the COMMUNITY
Are you helping her stay on the job?

Her children, your responsibility?

Full mobilization behind her!

# Help Her Stay on the Job!

There are today many labor-shortage areas over the country where hundreds more women workers are needed in war production. It is of vital importance to the main life lines of our war effort that every woman in America stick to her war job as long as she is needed.

We are not talking to the women workers who with intelligent foresight looked for other jobs when announced cutbacks meant lay-offs in the plant in which they worked. We are talking to women who are working in plants that are busy and will continue to work at full speed for many months to come.

Labor turn-over is waste—time lost in training, time lost in production, and time lost in delivering the goods of war to the battlefronts. Such waste can only be reduced if there is an all-out industry and community effort and cooperation with the worker to help her stay on the job.

## WHY DOES SHE QUIT HER JOB?

The reasons why women voluntarily quit their jobs are not mysterious unknowns. Some of them are old and long familiar in industrial circles, others are peculiar to wartime conditions. The woman worker quits today, as she did yesterday, because she is sick. She quits to get married, to join her husband when he is moved; or to stay home with her children. As early as the spring of 1943 these "marital, home, and allied causes" were the major reasons why women voluntarily quit their jobs in 42 war industry plants located in 17 States and employing approximately 70,000 women.

Labor turn-over rates for women usually are highest in the first month of employment. It is in the first weeks that a woman decides she doesn't like the job, that it is disappointing or unsuitable. Later she has other problems on the job—there is no chance for promotion, the job doesn't pay enough, or her supervisor expects her to do things without telling her how. Turn-over rates in the first month of employment are high for men also, but they have been particularly high for women during the war period because of the many new entrants to the labor market. To the women taking jobs outside their homes for the first time, the factory is strange, unknown, and they have little idea of what they are getting into.

More than 3 million of the 6,650,000 new entrants to the labor force between December 1941 and March 1944 were married women with homes to maintain and families to care for. This means that in addition to their problems of adjustment to the new job these married women have had the problem of making the necessary adjustment in home duties. Many mothers, such as Mrs. Thelma L., find that it is impossible to keep up the home and hold a position. She left her job at a naval air station because her double responsibility was too much for her health. Until she got "worn out" and had to quit, she worked the night shift, her husband the day shift, and they divided between them the care of their three children, 4½, 9, and 15.

## THE STORY IN STATISTICS

**High** turn-over rates for women still appear in heavy strictly male industries such as steel mills and shipbuilding. In these industries foremen and the he-man workers had to be sold on the idea of women employees, jobs had to be re-engineered and the working conditions and plant facilities adapted to women's needs.

Such industries as the electrical group, on the other hand—long experienced in the employment of women—have had low turn-over rates. The number of women wage earners in electrical machinery has more than doubled during the war and in May 1944 was over 350,000.

In most of the war production industries, quit rates for women were lower in April 1944 than in June 1943. In May, however, quit rates generally took a decided turn upward. During the coming months it can be expected that quit rates will continue to increase in those industries particularly affected by cutbacks in war production orders—small-arms-ammunition plants, for example.

The following table gives a comparison of the rate at which women have quit their jobs in 1943-44 for certain selected war industries:

*Quit Rates for Women in Selected Industries*[1]

| Industry | Number of quits per 100 employed in | | |
|---|---|---|---|
| | 1943 | 1944 | |
| | July | April | May |
| Electrical equipment for industrial use | 5.18 | 4.45 | 4.82 |
| Communication equipment, except radios | 3.78 | 4.01 | 3.99 |
| Aircraft | 7.26 | 5.88 | 6.27 |
| Aircraft parts | 6.00 | 4.93 | 5.42 |
| Shipbuilding and repairs | 8.49 | 7.98 | 8.83 |
| Machine tools | 6.08 | 4.44 | 4.79 |
| Engines and turbines | 6.54 | 4.51 | 5.20 |
| Steel castings | 8.84 | 5.39 | 7.48 |
| Gray-iron castings | 8.55 | 7.54 | 8.19 |

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[1] Source: U. S. Bureau of Labor Statistics. (Data by sex are published as preliminary figures only.)

# YOU—IN THE PLANT

## ARE YOU HELPING HER STAY ON THE JOB?

### IS ALL THE HARD WORK NECESSARY?

Have you changed the old-established way of doing the job?

Re-engineering jobs for women takes intelligent ingenuity, but according to the president of a large midwest war plant, "When we give them a chance, they make good in a big way." Machinery has been redesigned to make jobs more suitable for women and skilled jobs have been broken down for the less experienced and untrained workers.

One of the largest automotive concerns in Detroit has substituted pushbuttons for foot pedals and has installed electric devices for handling heavy materials. This company proudly tells that it has "adjusted to women" and finds that women now are out-producing men in most cases.

This is a modern industrial world and unnecessary hard work isn't the modern trend!

### DOES THE JOB FIT?

Some plants give too little attention to getting the right person in the right job. "If a woman is worn out on her job, nothing can compensate for an original bad placement," said an authority on job problems of the woman worker.

Good placement puts the woman applicant on a job using her highest skill, on a job she is physically capable of doing, with a cardful adjustment of working hours to fit her home responsibilities.

"Even if we have to employ practically every woman who walks into the employment office and applies for a job . . . careful selection and interviewing techniques will help us do a better job of placement," said the supervisor of employment and service of a large manufacturing concern in Chicago.

### HOW WAS SHE INTRODUCED?

Some plants let their new employees sink or swim, like Mrs. Anna S. The morning this woman reported for work the clerk in the employment office gave her some papers and told her to see the foreman in shop 502. When Anna S. found shop 502, she hunted up the foreman—who glanced at her papers and turned her over to the leadman. The leadman motioned to a woman and with no introduction said, "Work with this lady." This lady said, "We are cleaning wings." With these formalities, Mrs. Anna S. started to work.

Other plants get their new employees off to a good start—they are told what they are expected to do, how and when they get paid, their chances for advancement, and instruction in plant rules and procedures. An ordnance plant finds that 3 days in a vestibule school is sufficient for their new employees, while a large chemical company finds a 6-day induction program better suited to their needs.

An aircraft plant on the west coast found that 40 percent of their quits were in the first month on the job.

Your new employee is easily discouraged. Why not get her off to a good start and make a long-time investment in low turn-over?

## ARE YOU PROUD OF HER WORKING CONDITIONS?

Long working hours and their indirect consequences have accounted for a large proportion of the labor turn-over of women. Employees who must work excessive hours under pressure for a long time accumulate fatigue, and as one worker put it in racing terms, "you go track sour."

*What about your safety program?* Are you sure there is a follow-up on your instructions?

*What about her shift?* Are your women workers with home responsibilities given a shift preference?

Turn-over rates for women have been consistently higher for the night shift. It has also been found that too frequent a rotation of shifts will increase turn-over rates—child-care, transportation arrangements, adjustment to eating and sleeping routine, are complicated when the shift is changed too frequently.

A small-arms-ammunition plant reported that 15 to 20 percent of their terminations for women were because of shift rotation.

*Why does she gripe?* It would be abnormal if your workers didn't find some working condition to gripe about; however, if you let too many little things pile up you'd better prepare for a final explosion.

Why not make a thorough check-up on the little things? How is your plant housekeeping—are the floors free of oil? Are the rest rooms clean? The dressing rooms and lockers not too crowded? Have the girls a place to sit and eat their lunch? Could you stagger the cafeteria hours so the lines wouldn't be so long?

*How about the extras?* The employer who offers ration-board and transportation services, with a clerk to clear through the red tape of making a tire application, or requesting supplemental gas rations, is meeting a necessity of wartime.

Some of the larger plants go a step further in their efforts to keep women's turn-over rates down—they furnish in-plant shopping services, and have real faith in their beauty parlors.

## WHO KNOWS HER TRIUMPHS AND HER TROUBLES?

Did you really show her how? Had her foreman the know-how in teaching, and did he continue her instruction on the job?

The foreman has the large responsibility for her on-the-job instruction, for showing her how, and understanding her difficulties. If your foremen are inexperienced in handling new employees, why not take advantage of the War Manpower Commission training courses for job instructors?

Women employment directors have helped with the herculean task of employing the hundreds of inexperienced women in the war plants—the larger plants have established a more intimate contact with the worker and her in-plant and conflicting out-plant problems by a system of women's counselors.

"We cut our turn-over by an effective counseling procedure," said the personnel director of an aircraft plant where 75 percent of the employees are women.

Counselors are most effective when they have the workers' trust, the union's cooperation, and authority from top management. Counselors must know where and how to get things done. Pick your counselors for their practical experience and understanding.

*The exit interview* is a new technique that has spread from plant to plant across the country—the idea caught on because it works!

Do you know the real reasons why your women workers are quitting? Seven out of twenty women formerly employed by a naval air station gave a Women's Bureau agent different reasons for quitting their jobs from those they gave at the plant when they left.

In an aircraft plant mentioned above, "No employee is allowed to leave the plant without our knowing why," said the personnel director. "If we can't do anything about that particular person, it serves as a criterion for something that might be done to save others."

Why not put an exit interviewer on the job? She may only persuade a few women to try another job in a different department or to try a different shift, but she may uncover some real gripes that something can be done about.

## YOU—IN THE UNION

## ARE YOU HELPING HER STAY ON THE JOB?

Did the men workers in the plant welcome her? Did the union cooperate to make jobs in the plant more suitable for women—to give them equal pay? Were the rules on job progression changed so that women could start at the lighter jobs, and women with household responsibilities work the day shift?

In many plants, unions have given full cooperation to plans for the employment of women and have changed their seniority rules, at least for the duration of the war emergency, to enable women to by-pass the less suitable jobs. The union of one steel mill, for example, consented to amend the regular agreement between company and union to permit women to circumvent such jobs in the line of progress as they were physically unable to do. According to this agreement, a man who was displaced from a job by a woman was to be paid on his new job the same rate as paid on the job from which he was displaced, unless his new job paid more.

After making it possible for the woman worker to get a suitable job, the union has the further responsibility of seeing that she has a chance for promotion. Where community facilities are inadequate and in plants where many of the workers are strangers in the community, it is of particular importance that the union take an active part in providing for her recreation.

In Detroit, the UAW-CIO has added counseling to the list of union activities. This union has a special training course for counselors, and already the plan is being tested in several Detroit plants. The union counselor helps to advise on women's personal out-plant difficulties, and this should give the union a more intimate approach to the worker and her problems.

Are you as a union taking your full share of responsibility for your women members and their problems?

### LET WOMEN SPEAK TOO!

Are women given a chance at union offices? Are women on your labor-management committees?

Women representatives have a better understanding of women's problems—why not give them responsibility?

What about equal pay? And equal seniority?

### WHAT ABOUT HER MORALE?

What does she do in her off-time hours? The war worker cut off from her friends by working hours or by the miles she has come to take her job needs an occasional boost to her morale. A weekly dance for the night shift; a recreation hall for the lonesome in-migrant workers to a boom town; these help to reduce labor turn-over.

Many of these boom towns were small isolated communities before a war plant brought in thousands of workers. One of these areas credits a recreation program with helping to reduce area turn-over from 5.9 per 100 employees in July of 1943 to 3.7 in September.

In some Government owned and Government operated plants the War Department faced the absolute necessity of providing some recreation facilities or having a general exodus of war workers to other jobs.

## YOU—IN THE COMMUNITY

## ARE YOU HELPING HER STAY ON THE JOB?

### HER CHILDREN, YOUR RESPONSIBILITY?

Every day married women are quitting their jobs to go home and care for their children—the husband's shift is changed, the grandmother gets sick, or the neighbor who was watching the children moves away.

In 69 war production localities over the country the lack of child-care facilities in the spring of 1944 was reported to be a major factor in labor turn-over.

There may be a child-care center in your community. But your job is not done with its building and equipment. The working mother must know the *facts* about the child-care center. Does she know that the cost is not prohibitive, that conditions are good, that the center is not for those needing "relief"?

This job of educating the working mothers to the use of the available facilities, and checking the center in operation, is the responsibility of the community, *your* responsibility.

## FULL MOBILIZATION BEHIND HER!

Women workers are staying home to do their laundry— they are quitting their jobs to go home and get their meals on time. The president of a large aircraft plant on the west coast directed all plant labor-recruiting to get people to work in laundries and restaurants. "Every worker we can place in a laundry is worth 3 new workers in our plant," he said.

If you can't take a part-time job away from home, why not organize the neighborhood women to take care of her children, to do her shopping, or her errands? In San Francisco three "Neighbors Work Exchanges," organized and administered by community volunteers, offer child-care, shopping, and household services to the working woman at the prevailing wage rates.

**Don't relax yet!**

**This is full mobilization. Get behind her, and keep pushing until the job is done!**

PREPARED BY VIRGINIA C. ABBOTT *September 1944*

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# WOMAN POWER

a selcted list of
references published in 1943

Washington, D.C.

Compiled by Idair Smookler.

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**In** National petroleum news 35 pt.2:R395-396, R398 September 1, 1943.

Women take over men's plant jobs.
**In** National petroleum news 35 pt.2:R4-6 January 6, 1943.
How women can be used in oil refineries and some suggestions for training, hiring and preparing the way for their acceptance by the other employees.

## Professional Work

Dignam, D. Message to women; never be afraid of any advertising job.
**In** Printer's ink 203:24, 25, 53, 56 May 14, 1943.
Report of survey made of advertising agencies, publications, business concerns, department stores and radio on opportunities for women.

Effect of war on employment of woman lawyers.
**In** Monthly labor review 57:502-503 September 1943.
Reprinted from Women's work and education, April 1943.

Stoermer, G.S. What women can do for banking.
In American institute of banking. Bulletin 25:18-19,33 January 1943.
Mentions some types of work women can do.

U.S. Women's bureau. Women in personnel and industrial relations work in war industries. March 1943. 16p.

## Public Utilities

Flint, L.S. How to train women for gas company jobs.
In American gas journal 158:23-24 February 1943.
Jobs which women can do, recruiting and training.

It's women's work now.
In Electrical west. 90:47-49 May 1943.
Pacific Gas and Electric Company is employing women to fill a great variety of men's jobs.

Laboratories add women scientists to research staff.
In American gas association. Monthly p229 May 1943.
American Gas Association laboratories.

Meterettes on the job in Kansas city.
In Gas age 91:24 February 11, 1943.
Women meter readers for the Kansas City Gas Company.

Nelson, R.S. Women take parts of men's jobs.
In Electrical world 120:822-823 September 4, 1943.
Gulf States Utilities Company regrouped jobs so that women could do those parts requiring little experience and men could be kept on those which required experience.

Stewart, R.L. Women filter plant operators.
In American waterworks association. Journal 35:1437-1439 November 1943.
In a Maryland plant operated by the War Department.

## Shipbuilding

Navy yard has 1400 women, jobs once held by men.
In Steel 112:24-25 January 18, 1943.

Oppenheim, B. Women workers in the shipyards.
In Marine engineering 38:221-222, 224 April 1943.

## Textile Industry

Anderson, H.S. Woman-power helps Dixie to run.
In Textile world 93:94-95 November 1943.
How the Dixie Mercerizing Company recruited, housed and trained unemployed girls from the neighboring Tennessee towns and villages.

Employment of women in the textile industry to replace men who have entered the armed services.
In American dyestuff reporter 32:78-84 February 15, 1943.
An open forum conducted by the Rhode Island Section. Includes short talks and some discussion on women in the cotton piece goods, worsted, cotton yarn, woolen industries and their training.

Helliwell, E.H. Assigning card-room jobs to women; time studies and analysis of tenders' work show how to save manpower.
In Textile world 93:62-63 March 1943.

Help wanted--female; textile mills need planned program for securing and training women workers.
In Textile world 93:55 January 1943.

Women in finishing plants.
In American dyestuff reporter 32:438-439 October 11, 1943.
Discussion at a meeting of the Southeastern Section on the place of women in finishing plants.

## Transportation

Los Angeles goes courting; getting girls who do a good job and like it is now a fine art.
In Mass transportation 39:183-185 May 1943.
Conductorettes and motormanettes for Los Angeles street cars.

Nowadays there are few railroad departments uninvaded by women.
In Railway age 114:828-829 April 24, 1943.
Photographs of women workers at various jobs.

Railroads had 63,187 women employees in January.
In Railway age 114:735 April 10, 1943.
Table accompanying article indicates number of women employed in each classification.

Savin, M.A. Women established as truck drivers.
In S.A.E. Journal 51:sup.18 June 1943.
Abstract. Women are hired as drivers by the Savin Express Company after passing oral and written tests.

Sells, Dorothy. Women make grade in transportation.
In Domestic commerce p16,24 June 1943.
Jobs women can do in transportation.

So they took women and like 'em!
In Bus transportation 22:23-25 April 1943.
Experience of Pacific Greyhound Lines with women bus drivers and some of the things they have learned about handling women employees.

Springfellow, G.E. Girl truckers are quick to learn, and take excellent care of equipment.
In Steel 112:122,125 June 7, 1943.
Operation of battery industrial trucks at a plant of the Allis-Chalmers Manufacturing Company.

Theisinger, E.F. Is a Miss as good as a male?
In Bus transportation 22:30-35 June 1943.
Connecticut Railway and Lighting Company's experience with women mechanical workers.

Theisinger, E.F. Remanning with women; Harrisburg Railways in answering the manpower shortage in its garage with women...as washers, cleaners, gassers and shifters. How are they working out? Well the management is looking for more and expects to increase its feminine personnel further as the emergency demands.
In Bus transportation 23:26-29 May 1943.

They did it before, they can do it again.
In Bus transportation 22:28-31 January 1943.
Experience of various eastern transit companies who use women as drivers, conductors, checkers, cleaners and in the shops.

Transettes introduced to San Antonio public.
In Mass transportation 39:182 May 1943.
They supply information, make change, sell tokens and passes and help to speed up service.

Wicker, T.C. New Orleans' women keep 'em rolling.
In Mass transportation 39:275-278 August 1943.
Adequate and intelligent training is the secret of success the New Orleans Public Service, Inc. has had with the employment of women.

Women getting more work on railroads.
In Railway age 115:28 July 3, 1943.

Women in railroad work increase in number; in mid-July they made up 6.79 per cent of all employees on Class I roads.
In Railway age 115:531-532 October 2, 1943.

Women serving navy yards as bus and truck drivers.
In Mass transportation 39:251 July 1943.

Young, M. Women workers on railroads.
In Railway age 115:765 November 13, 1943.
On track gangs of the Pennsylvania Railroad.

Sources consulted:

Industrial arts index, 1943.
Public affairs information service, 1943.
Readers' guide, 1943.

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## PUBLICATIONS AS TO WOMEN IN WAR INDUSTRIES

(A Brief Selected List)

### General

Your Questions As to Women in War Industries, Women's Bureau Bulletin 194.
Publications Relating to Women in War Industries. (Blue folder)
Monthly Labor Review Reprint: War Work of the Women's Bureau. (Occupations, wages, conditions of work, labor laws)
The First Quarter Century. (Folder)
25th Anniversary of the Women's Bureau. (Folder)

### Employment Trends

Women's Bureau Reprints:
  The Work that Women Do
  Impact of War Production on Women's Employment
  Wide Scope of Women's Work Skills
Monthly Labor Review Reprints:
  Women in Two Wars
  Wartime Employment of Women
Census Release: Civilian Labor Force (Monthly)
Women's Bureau Mimeos.:
  Increase in Woman Employment, 1914-1918
  Absenteeism
Part-Time Employment of Women. Spec. Bul. 13.
The Post-War Employment of Women in the United States. John D. Durand, Bureau of the Census. Reprint, International Labor Review, Dec. 1943.

### Occupations

Women's Bureau industry studies: Aircraft; Ammunition; Cannon and Small Arms; Machine Tools; Instruments; Shipbuilding; Steel. Bul. 189-4, 192- 1 to 5.
Monthly Labor Review Reprint: War Work of the Women's Bureau.
Women's Bureau Reprints:
  Processes Women Are Performing in Defense Industries. 1941. (Not in use.)
  Women Are Replacing Men in Office Positions
What Job is Mine on the Victory line?
Women's Bureau Mimeos.:
  Typical Operations on Which Women are Employed in War Production
  Women in Personnel and Industrial Relations Work in War Industries
The Woman Counselor
Labor Information Bulletin:
  Women'sWWork in the Electrical Industry, June 1943
  Women's Employment in Professional or Technical Jobs, September 1943.

## Standards

### Health

Effective Industrial Use of Women in Defense Industries. Women's Bureau Spec. Bul. 1.

Women's Bureau Special Bulletins: Weight Lifting; Clothing; Washing and Toilet Facilities; Meals and Rest; Abrasive Wheels; Safety Caps; Posture. Spec. Buls. 2-5, 7, 9, 10.

Labor Information Bulletin: Safeguarding Health of Women in War Work. April 1943.

Women's Bureau Mimeo. The Industrial Health of Women in Wartime Production.

### Wages

"Equal Pay" for Women in War Industries. Women's Bureau Bul. 196.

### Labor Laws

Wartime Status of State Hour Laws. Jan. 1944.

Summary of State Labor Legislation for Women, 1942 and 1943. Nov. 15, 1943.

Recommendation on Hours of Work for Maximum Production and two Supplements, Dec. 31, 1942 and Sept. 9, 1943

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# RECENT MATERIAL RELATING TO WOMEN'S WAR WORK IN VARIOUS FOREIGN COUNTRIES

## Current publications

International Labor Review.

Bulletin of the International Federation of Trade Unions.

Women's Publicity Planning Association Ltd., 14 Dartmouth St., London, S.W.1, England. International Women's News.

Canada, Department of Labor. The Labor Gazette.

Great Britain, Ministry of Labor and National Service. The Ministry of Labor Gazette; Production and Engineering Bulletin.

## Australia

Australian News and Information Bureau. Australian Women at War. Women's Fact Bulletin, No. 1, June 1943.

The Dawn. "Women Workers in Australia," June 16, 1943.

International Labor Review. "Conditions of Employment and Welfare of Women in Australian War Industry," July 1943.

Further data obtainable from:

Australian News and Information Bureau
610 Fifth Avenue
New York, N.Y.

## Canada

Canada, Wartime Information Board, Ottawa. Canadian Women in the War. Reference Papers No. 2, April 6, 1943.

International Association of Governmental Labor Officials. Women in Canadian Industries. Supplement to Report on Women in Industry. October 1943. 2pp. mimeog.

U. S. Department of Labor. "Women War Workers in Canada." Labor Information Bulletin, June 1943.

## China

International Women's News. "China Conscripts Women," July 1943.

## Germany

Office of War Information. The Nazi Slave Labor Society, Release 1469, March 28, 1943.

War Manpower Commission. "Utilization of Women in War Production in Germany, Great Britain and Russia." The Labor Market, June 1943.

## Great Britain

British Information Services. Women's War Work in Britain. June 1943.

Further data obtainable from:

British Information Services
1336 New York Ave., N.W.
Washington, D.C.

## New Zealand

New Zealand, National Service Department. Reports of the National Service Department and of the Industrial Man-Power Division. "Emergency Regulations, 1942." June 1943.

## Russia

International Labor Review. "The Wartime Employment of Women and Children in the U.S.S.R." Vol. 48, No. 3, pp. 361-364. September 1943.

War Manpower Commission. "Utilization of Women in War Production in Germany, Great Britain and Russia." The Labor Market. June 1943.

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war

## TRAINING, SELECTION, AND SUPERVISION OF THE WOMAN EMPLOYEE

American Management Association. *Selecting and Placing Women Workers.* By Millicent Pond. 1942. (Production Series No. 138, Solving the Manpower Problem, pp. 14 - 22.)

________________. "Need for Women in War Work Poses Problems--N.A.M. Suggests Hiring, Training Techniques." *Labor Relations Bulletin*, No. 41, May 1942.

Anderson, Mary. "How to Use Women Workers in War Industry." *In* Dodd, Alvin E. and Rice, James O. *How to Train Workers for War Industries.* New York, Harpers & Brothers, 1942.

Bedell, Earl L. "Training Women for Wartime Industries." *Industrial Arts.*

*Factory Management and Maintenance.* "How War Plants are Training Women," August 1943.

Federal Security Agency. U. S. Office of Education. *Training Women Defense Workers.* Louise Moore. Jan. 9, 1942. Mimeo. 9 pp.

________________. *Wanted--Women War Production Workers.* June 1943. Mimeo. 22 pp.

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"Junior Engineer Courses for Women," Jan. 1, 1943.
"Engineering, Science and Management War Training Trains Women as Civil Service Junior Engineers," Feb. 15, 1943.
"Public Vocational Schools and the War," March 15, 1943.

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Institute of Women's Professional Relations. *War Demands for Trained Personnel.* 1942. 260 pp.

*Journal of the American Association of University Women.* "College Women and War Industry," Spring 1943.

*The Management Review.* "Women as Supervisors," February 1943, pp. 78 - 80.

Manufacturers' Association of Connecticut. *Womanpower to Supplement Manpower.* 1942 32 pp.

National Foreman's Institute, Inc. *Supervising the Woman War Worker.* Deep River, Conn., 1943, 34 pp.

National Industrial Conference Board, Inc. *Women in Factory Work.* 1942. 52 pp. (Studies in Personnel Policy, No. 41.)

Owens, Marion E. "Women Personnel Executives." *Personnel Journal*, March 1942.

Supervision. "How to Use Your New Womanpower More Effectively," Dec. 1942; "Are Women Workers Cooperative," Feb. 1943; "How to Train Women for War Production," March 1943; "Getting Full Production with Women," April 1943.

U. S. Department of Labor. Women's Bureau. Choosing Women for War-Industry Jobs. Spec. Bul. 12. June 1943. 10 pp.

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## SELECTED REFERENCES ON SAFETY AND HEALTH OF WOMEN WAR WORKERS

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New York State Department of Labor. The Industrial Bulletin. "Relation of Hours of Work to Health and Efficiency," May 1941.

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2 - Lifting Heavy Weights in Defense Industries. 1941. 11 pp.
3 - Safety Clothing for Women in Industry. 1941. 11 pp.
4 - Washing and Toilet Facilities for Women in Industry. 1942. 11 pp.
5 - Women's Effective War Work Requires Time for Meals and Rest. 1942. 4 pp.
6 - Night Work for Women and Shift Rotation in War Plants. 1942. 8 pp.
7 - Hazards to Women Employed in War Plants on Abrasive-Wheel Jobs. 1942. 6pp.
9 - Safety Caps for Women in War Factories. 1943. 4 pp.
10 - Women's War Work Requires Good Posture. 1943. 6 pp.

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Illinois Department of Labor. ". . . Average Weekly Earnings, and Weekly Hours of Work for Wage Earners in Reporting Illinois Establishment, by Industry." The Illinois Labor Bulletin. (Monthly figures by sex.)

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New York State Department of Labor. "Employment and Average Weekly Earnings of Men and Women in Representative Factories in New York State and New York City." The Industrial Bulletin. (Monthly figures.)

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# WOMEN IN WAR PRODUCTION

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"Women in Federal Defense Activities," March 1942.
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"Increase in Women Factory Workers in New York State in 1942," May 1943.
"Wartime Employment of Women in Manufacturing," October 1943.
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"Women Workers Advance at the Turn of the Year," January 1943.
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U. S. Department of Labor, Women's Bureau. *Women's Employment in Aircraft Assembly Plants in 1942.* Bul. 192-1. 1942. 23 pp.

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__________. *Employment and Demand for Women Workers in Manufacture of Instruments--Aircraft, Optical and Fire-Control, and Surgical and Dental.* Bul. 189-4. 1942. 20 pp.

__________. *Employment of Women in the Machine Tool Industry, 1942.* Bul. 192-4. 1943. 42 pp.

__________. *Part-Time Employment of Women in Wartime.* Spec. Bul. 13. 1943. 17 pp.

__________. *Recreation and Housing for Women War Workers.* Bul. 190. 1942. 40 pp.

__________. *Women's Work in the War.* Bul. 193. 1942. 10 pp.

__________. *Your Questions As to Women in War Industries.* Bul. 194. 1942. 10 pp.

__________. *Women Workers in Some Expanding Wartime Industries. New Jersey, 1942.* Bul. 197. 44 pp.

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__________. *Women in the Wartime Labor Market.* August 30, 1943. 13 pp. Processed.

Whiting, Elizabeth G. *Social Action*. "The American Woman's Primer, Her Role in War and Peace," Sept. 15, 1943. 42 pp.

Zapoleon, Marguerite.W. *Women and the National Defense*. U. S. Office of Education, 1941. Mimeog. 11 pp.

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# INFORMATION ON WOMEN'S OCCUPATIONS

Source: Education for Victory, October 15, 1942

To meet the increasing demand of school and college counselors for information regarding current sources of material on women's occupations, the Occupational Information and Guidance Service in the Vocational Division of the U. S. Office of Education has prepared the following list of agencies in the Federal Government in which certain types of occupational information of interest to women originate:

Bureau of Labor Statistics. U. S. Department of Labor.

Current statistics on and estimates of need for women in war industries. See Monthly Labor Review for current articles.

Bureau of the Census. U. S. Department of Commerce.

Official census statistics on occupational and industrial distribution of women workers for the country as a whole, for States, larger cities and for countries.

National Roster of Scientific and Specialized Personnel. War Manpower Commission.

Information on supply and demand of professionally trained women.

National Youth Administration. War Manpower Commission.

Statistics on girls being trained on NYA wartime projects and occupational information prepared by national and regional offices for use in guidance and placement.

Office of Defense, Health and Welfare Services. Federal Security Agency.

Information on current demand and supply of nurses and others in health and welfare fields, and day care of children of working mothers.

Office of Defense Transportation.

Information on training and on actual and potential use of women in transportation occupations.

Training Within Industry Service. War Manpower Commission.

Information on training of women already employed in war production industries.

U. S. Civil Service Commission.

Statistics and information on women employed in Government service, including civilian employees of the armed services; ordnance, signal corps, etc. Current announcements of Civil Service examinations may be obtained at first- and second-class post offices or at one of the regional offices of the Commission (list available).

U. S. Employment Service. War Manpower Commission.

Statistics on applications and placements of women in public employment offices; estimates of demand for women based on studies of labor markets; information on related experiences in foreign countries; special reports from time to time on use of women in certain occupations or by certain types of employers.

U. S. Navy Department.

Information on WAVES and Navy Nurse Corps.

U. S. Office of Education. Federal Security Agency, Business Education Service.

Information and statistics on training of women for office and distributive occupations.

Engineering, Science, and Management War Training Program.

Statistics and information on training of women under this program.

Home Economics Service.

Information and statistics on home economics training in schools, colleges, and in adult programs and on contributions of the home economic teacher.

Information Exchange.

Loan packets containing miscellaneous information on: Women and the War.

Occupational Information and Guidance Service.

Bibliographies, references, sources and specific information on women's occupations and on guidance problems encountered by counselors of girls and women in schools and colleges.

Trade and Industrial Service.

Information and statistics on training of girls and women for trade and industrial work and on techniques and problems of such training.

See Education for Victory, official biweekly publication of the Office of Education, for current reports and articles and information on teacher demand and supply.

U. S. Public Health Service. Federal Security Agency.

Information on Federal aid to scholls of nursing program and on public health workers.

U. S. War Department.

Information on WAACS, new Women's Auxiliary Ferry Command, Army Nurse Corps, and civilian employees.

Woman's Bureau. U. S. Department of Labor.

Publications, charts and information on women workers and on employment of women in this country and abroad based on studies and research by a field staff.

See Labor Information Bulletin for current articles.

Women's Section. Director of Operations. War Manpower Commission.

Information on woman in war production and replacement of men by women in war industries. The War Manpower Commission also has a women's advisory committee recently created by the Chairman of the Commission for consultation on manpower matters affecting the use of women in the war.

Work Projects Administration. Federal Works Agency.

Statistics on training and work projects for women receiving public relief.

Annotated bibliographies
of material on Women in War.

June 1941 — August

WOMEN'S BUREAU
U. S. Department of Labor
Washington

Miss Pidgeon

# RECENT MATERIAL ON WOMEN IN WAR

Research Division (Miss Hooks)
List No. 7. August 3, 1942.

The Research Division is closely following publications on women in the war effort through the Library and other Government agencies. Of some of this material the Bureau Library also has its own copies. No Women's Bureau publications are included on these pages.

This list includes material on:

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Occupations and Industries.......................... 2-3
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Social and Psychological Problems.................. 3
Women and Trade Unions............................. 3
Training........................................... 4
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Various Countries.................................. 6

## GENERAL INFORMATION ON WOMEN IN WAR WORK

1. Amidon, Beulah. "Arms and the Woman." Survey-Graphic, pp. 244-8, 271. May, 1942. (Present and future needs for woman labor, jobs filled by women, job training, wages, hours of women in war industries, etc.)

2. Baker, Helen. Women in War Industries. Industrial Relations Section, Department of Economic and Social Institutions, Princeton University, 1942. (Summarizes the principal personnel problems facing industry in greater employment of women).

3. Business Week. "Nation Appraises Its Womanpower;" "Women's Place: Surveys show they not only can do the job but they often do it better than men. Obstacles to employment are giving way." May 16. 1942 (Same article is presented in The Management Review, Vol. 31, No.6, pp. 197-199. June, 1942).

4. Federal Security Agency. Bureau of Employment Security. The Employment of Women in War Production. May, 1942. 36 pp. Processed. (Discusses employment of women 1914-18, and woman labor supply, occupational potentialities, placements, training and future of employment of women 1940-41).

5. McKelvey, Thelma. Women in War Production. New York, Oxford University Press, 1942. ~~32 pp. (Types of work~~ for women, policies and social factors in greater employment of women.) (Revision of testimony before House Committee Investigating National Defense Migration, listed as item 2 onList No. 6.)

6. National Industrial Conference Board. "Women in Factory Work." The Management Record. May, 1942 (Summary of Report on N.I.C.B. Women listed as item No. on List No. 6.)

7. U. S. Department of Labor Wage and Hour Division. Wartime Policies on Wages, Hours, and Other Labor Standards in the United States, 1917-1918. May, 1942. 42 pp. Mimeog.

8. U. S. Employment Service for New York. The Employment Review. "Women Workers in War Production." From a Speech by Meredith B. Givens. Vol. 4, No. 6, June 1942. (Includes specific information on women in New York State.)

9. U. S. Office of Education. Women's Contributions in Wartime - A List of References to Recent Material. By Helen Ellis Wheeler. 1942. 7 pp. Mimeographed.

10. Williams, Roy F. "Women to the Industrial Front." Industry. March, 1942. (Summary of the factors involved in the employment of women).

## INDUSTRIAL MOBILIZATION AND REDISTRIBUTION AND THE WOMAN LABOR SUPPLY

11. Independent Woman. "On Registering Women." May, 1942.

12. Modern Industry. "Labor Trends." July 18, 1942, pp. 87-8. (Percentage of women employed in 1941, 1942 and 1943 (estimated) in typical individual plants responding to a questionnaire submitted to 1,000 top executives.)

13. New York State Industrial Bulletin. "Women in War Industries." April, 1942. (Anticipated hiring of women in various industries in New York State.)

14. Stewart, Maxwell S. "Shall We Draft Women?" The Nation, pp. 483-6. April 5, 1942.

15. Work Projects Administration. "Women in the Labor Force." Monthly Report of Employment and Unemployment, Special Memorandum No. 11. July 6, 1942.

## OCCUPATIONS AND INDUSTRIES

16. B. & O. Magazine. (Annual Women's Number.) "Women, War and Work." June, 1942. (Women in railroads have increased from 36,000 in 1940 to 50,000, with more every day.)

17. Business Week. "Women's Factory: Republic Drill & Tool Co. Has Adapted Plant Processes and Redesigned Its Machines to Fit Feminine Requirements." July 4, 1942.

18. Hastings, George S. (Manager, Industrial Relations, Inland Division, Vultee Aircraft, Inc.). "The Woman in the Shop - How Problems Were Solved By a Concern That Has Hundreds of Women Doing Men's Jobs." Factory Management and Maintenance. June, 1942, p. 90.

19. The Institute of Women's Professional Relations. War Demands For Trained Personnel. Proceeding of the Conference March 20 and 21, 1942. 260 pp. Mimeographed. (Demands in the war period in the scientific services, health occupations, home economics, business, law, transportation and communication, education and community agencies, information agencies; also talks on the war program as a whole.)

20. Wharton, Don. "Women in Slacks Speed Plane Production." Aviation, Vol. 41, No. 6, pp. 74-5, 249-50. June, 1942.

21. Zapoleon, Marguerite W. Women of the United States and the War. U. S. Office of Education. Vocational Division. Misc. 2977. April, 1942. 14 pp. Mimeographed. (Work of women in the armed forces, war industries, volunteer services.)

### WAGES, HOURS AND WORKING CONDITIONS

22. Illinois Department of Labor. "Employment and Payrolls in Illinois Industries Rise During May." The Illinois Labor Bulletin, Vol. 2, No. 12, pp. 6-9. June, 1942. (Gives average hourly earnings by sex.)

23. Michigan State Department of Labor and Industry. Women Workers and White Collar Workers in Michigan Manufacturing Industries. July, 1942. 6 pp. Mimeographed. (Gives earnings and hours data from 916 Michigan firms for April, 1942, for men and women.)

### SAFETY AND HEALTH

24. Kronenberg, Milton H. "Women and Wartime Health Problems." Industrial Medicine, Vol. 11, No. 7, pp. 333-336. July, 1942.

25. National Research Coucil. The Food and Nutrition of Industrial Workers in Wartime. 1942. 26 pp. (Recommendations as to the nutrition of workers in war production. Not specifically about women.)

### SOCIAL AND PSYCHOLOGICAL PROBLEMS

26. United States Department of Labor. Children's Bureau. Report on Standards for Day Care of Children of Working Mothers. February, 1942. 22 pp. Mimeographed.

### WOMEN AND TRADE UNIONS

27. U. E. News. "District Four Conference Maps Program for Women." November 1, 1941. (Report of a conference discussing women and national defense, wages, working conditions and job opportunities, and organization and leadership among women; endorses equal pay for equal work.)

TRAINING

28. Martin, C. W. "Women Being Trained as Mechanical Helpers." Domestic Commerce, Vol. 30, No. 2, pp. 20, 21. July 9, 1942. (Training women at Charleston, S. C., in the Defense Training School for work as mechanical helper trainees at the Charleston Navy Yard.)

29. U. S. Office of Education. Education for Victory. "Information for Women Interested in War Employment and Training." June 15, 1942.

30. ______________. "Vocational Schools Double Training Load; Enrollment of Women Increasing." July 1, 1941.

GREAT BRITAIN

31. Bondfield, Margaret C. "Women in War Industries: British Experience." Training Workers and Supervisors for War Production. American Management Association Personnel Series No. 56, pp. 11-16. 1942. (Women in British war industries, and policies as to training, hours of work, wages, and working conditions.)

32. British Medical Association. Report of Committee on Industrial Health in Factories. London, 1941. (Includes 2 paragraphs on medical supervision of the woman worker.)

33. The British Information Services. Bulletins from Britain:

No. 91. "What Shall We Do With the Children?" "Women's Hundred Per Cent Response." May 27, 1942.
No. 94. "Uniforms Will Not Make Women Uniform," by Edith Summerskill, M. P. June 17, 1942. (Changes in the position of woman that the war may bring.)
No. 95. "Women Part-time Workers Lead Double Lives," by E. M. Delafield; "Shifting Women from Peace Work to War Work." June 24, 1942.
No. 99. "Britain Sets Up World's Largest Chain of Hostels." July 22, 1942.

34. Cox, Mary. British Women at War. London, John Murray and the Pilot Press, Ltd., 1941. 72 pp. (Activities in the women's services mainly. Photographs.)

35. Great Britain. Ministry of Labor and National Service. Engineering Bulletin. "Industry's 'Household Brigade' [Part-time work];" "The 'Over-30's' on Munitions. Striking Facts from a Works Employing Thousands of Women;" "Pioneering the Part-Time Trail: Snags and Their Remedies - That Extra Clerical Work - Adjusting the Hours - What Experience Has Proved;" "Older Women in Midlands Factories;" "Husband Your Labor Resources But Don't Forget the Wives and Mothers." No. 11, April, 1942.

36. ______________. "Are You Wanting Welders?" "Women's Technical Service Register;" "Welcome to the New Job - How Sound Psychology and Good Welfare Arrangements Ensured the Success of a Factory Training Scheme;" "Multiple Drilling and Machining - A Problem Involving Ingenuity of Design, a Multiplicity of Jigs, a 'Home-Made' Conveyor Belt, and a Team of Girls;" "Spotlights on Production;" "Training for Factory Canteens;" "Responsible Work for Women: Time Study - Research Work - Supervisor-Instruction;" "Machining Engine Details in an Ironworks Where Women Work Extensively on Marine Engines." No. 12. May, 1942.

37. ______________. "Progress in Government Training;" "Equipment of Aircraft;" "More Women for Foundry Work - Striking Examples of Successful Dilution Due to Enterprising Management and Resourceful Experimentation;" "Girls Work Flame-Parting Machines;" "Spotlights on Production;" "Marine Engineering - How Women Are Helping, Even in The Heavy Engine Shops;" "News From the Training Centers." No. 13. June, 1942.

38. Great Britain. Ministry of Labor and National Service. The Ministry of Labor Gazette. "Employment of Women (Control of Engagement) (Amendment) Order;" "Registration for Employment: Registrations for Women;" "Registration and Placing of Technical and Professional Personnel: Women's Technical Service Register;" "National Service Act, 1939-1941 - Calling Up of Women: 1918 and 1919 Age Classes;" "Hours of Women and Young Persons: Revocation of General Emergency Order for Potteries; General Emergency Order for Engineering and Certain Other Classes of Works." Vol. 50, No. 5. May, 1942.

39. ______________. "Average Weekly Earnings of Workpeople in the Principal Industries At January, 1942;" (Data are by sex.) "Labor Shortage in Cotton Spinning Mills;" "Hours of Women and Young Persons: Extension of General Emergency Order for Cotton Spinning or Doubling." Vol. 50, No. 6. June, 1942.

40. Great Britain. Ministry of Labor and National Service. "Women's Technical Service Register." Leaflets, P.L. 101, and P.L. 104. 1942 (Describes opportunities in munitions for the trained woman; One leaflet for women, one for employers).

41. Great Britain. Treasury. The Taxation of Weekly Wage Earners. April, 1942. (Includes description of the proposed tax deductions for married women, which it is hoped will induce more married women to go into industry.)

42. Haynes, Eldridge. "Britain's Fighting Women." Modern Industry, Vol. 3, No. 6, pp. 27-31, 63. June, 1942. (Details about recruitment training, housing, jobs and working conditions of women war workers. Many photographs.)

43. Hughes. Therle. "'Bevin Belles:' Wartime Specialists." Survey Graphic, Vol. 31, No. 7, pp. 324-327. July, 1942.

44. International Women's News. "Women and Part Time Work." Vol. 36, No. 9. June, 1942.

45. .. ____________. "Women in the Civil Service. Unused Talent and Ability." Vol. 36, No. 9. June, 1942.

46. Labor Management. "Employment of Part-Time Staff." May, 1942.

47. The Manchester Guardian. "Conditions in a War Factory. Trade Union Deputations Report." May 9, 1942. (55 percent of the employees were married women, but unskilled male labor had shown the most absenteeism.)

48. Monthly Labor Review. "Mobilization of Labor in Great Britain." Vol. 55, No. 1, pp. 25-41. July, 1942. (General discussion including some references to women.)

49. Mother and Child. "Women in Industry." Vol. 13, No. 2, pp. 26-8. May, 1942. (Meeting problems of employing women with young children.)

50. Political and Economic Planning. "Mobilizing Woman Power." Planning No. 185. February 10, 1942. (Part-time employment of British women.)

51. The Woman Engineer. Vol. 5, No. 11. June, 1942. "Airing One's Views;" (Reports by individual women of their experiences in war employment.) "My Job on War-Time;" "Women Trainees in the Motor Trade."

VARIOUS COUNTRIES

52. Labor Management. "The Industrial Front in Germany." By T. Prager and M.J. Wilkinson. January, 1942. (Includes section covering extent of women's employment, occupations, care of children, shopping, wages, etc.)

Miss Pidgeon

**WOMEN'S BUREAU**
**U. S. Department of Labor**
**Washington**

# RECENT MATERIAL ON WOMEN IN WAR

Research Division (Miss Hooks)
List No. 6. June 1, 1942.

The Research Division is closely following publications on women in the war effort through the Library and other Government agencies. Of some of this material the Bureau Library also has its own copies. No Women's Bureau publications are included on these pages.

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## GENERAL INFORMATION ON WOMEN IN WAR WORK

1. Banning, Margaret Culkin. Women for Defense. New York, Duell, Sloan and Pearce. 1942. 243 pp. $2.50.

2. Committee Investigating National Defense Migration. U. S. House of Representatives. Hearings, Part 27, Feb. 3, 4, 11, 1942. (Includes testimony on women in war industries by Mary Anderson and Donald Davenport of the U. S. Department of Labor, and by Thelma McKelvey of the Labor Division, War Production Board.)

3. Davis, Shelby Cullom. Your Career in Defense. New York, Harper & Brothers, Publishers, 1942. 311 pp. (includes information directed toward women, especially in Chapters on "The Fair Sex," "Ordnance Arsenals," "Our Explosives Plants," "Our Government.")

4. Gove, Gladys E. "Looking for a War Job?" Independent Woman, Vol. 21, No. 4, pp. 118-19. April, 1942.

5. Greenbie, Marjorie Barstow. "Women Work for Victory." Independent Woman, Vol. 21, No. 1. January, 1942.

6. Johns, Elsie. "3 Million Women Will Punch Factory Time Clocks." Printers' Ink. May 8, 1942 (Discusses publicity by employers taking on women.)

7. Lee, Kendrick. "Women in War Work." Editorial Research Report. January 26, 1942. 78 pp. (Women in World Wars I and II in the United States, Great Britain and Germany.)

8. McKelvey, Thelma. "Women Are Necessary to War Industry." Domestic Commerce, Vol. 29, No. 14, pp. 3-7. April 2, 1942.

9. New York State Department of Labor. "Multiple Shifts in State Factories: Shift Operations for Women." The Industrial Bulletin. January, 1942.

10. ______________. "War Industries in New York City: Employment of Women." The Industrial Bulletin. February, 1942.

11. ______________. "Emergency Dispensations for War Industries: Quarter of War Workers Women. "The Industrial Bulletin." March, 1942.

12. ______________. "Women in War Industries. The Industrial Bulletin.

April, 1942.

13. Reeves, Raymond. "Industry Offers Increasing Opportunities for Women." Domestic Commerce, Vol. 29, No. 12, pp. 3-8 and 13. March 19, 1942.

14. The Women's Press. "Women at Work in War Time." Vol. 36, No. 4, pp. 216-19. April, 1942.

15. ______________. "Women in the Industrial Army." By Margaret R. Taylor Carter. Vol. 36, No. 5. May, 1942.

16. United States. House. Committee on Military Affairs. Women's Auxiliary Army Corps: Hearings, January 20-21, 1942, on H. R. 6293, A Bill to Establish a Women's Army Auxiliary Corps for Service with the Army of the United States. Washington, 1942. 56 pp.

17. U. S. Office of Education. Women of the United States and the War. By Marguerite Zapoleon. April, 1942. Mimeographed.

18. University of Chicago Round Table. Women, Work, and the War. No. 210. Chicago, March 22, 1942. 29 pp.

## INDUSTRIAL MOBILIZATION AND REDISTRIBUTION AND THE WOMAN LABOR SUPPLY

19. Case, Victoria. "Oregon Checks Womanpower." Independent Woman, Vol. 21, No. 3. March, 1942.

20. Fortune. "Arms and the Manpower: Mobilization of the Total Labor Force; the Nation's Ultimate Resource and the One for Which There is no Substitute is Washington's Next Great Task." April, 1942.

21. National Industrial Conference Board. "Women as War Labor Reserves." The Economic Record. February, 1942. (Discusses trends in woman employment, numbers in war industries in World War I, and numbers now available.)

22. Office of Facts and Figures. Report to the Nation: The American Preparation for War. Washington, D. C., January 14, 1942. (Report on Progress of the Defense Program through December 31, 1941, including a paragraph on "Women at the Beaches," with estimate of 500,000 employed in war work).

23. Vocational Trends. "America's Shift to War Production." March, 1942. (Gives number of factories and of workers in 20 major industries affected by conversion; nothing specifically about women.)

24. Work Projects Administration. Potential Labor Supply in March, 1942. Special Memorandum No. 10. April 1942. (Estimates include data on woman labor supply.)

## OCCUPATIONS AND INDUSTRIES

25. American Machinist. "Aircraft Bomb Fuses." December 24, 1941, pp. 1323-33. (Includes description and photographs of jobs performed by women.)

26. American Aviation. "Companies Report Success in New Policy of Employing Larger Numbers of Women." Vol. 5, No. 9, p. 15. October 1, 1941.

27. _______________. "Lines Hire Women at Record Rate as New Personnel Problems Arise." Vol. 5, No. 17, p. 33. February, 1942.

28. _______________. "Thousands of Women to Ease Threatened Labor Shortage: 20,000 'Girls' Already Working; Many More Soon." Vol. 5, No. 22, pp. 3, 13, 18. (Proportions of women in various aircraft plants and jobs.)

29. California. Department of Employment. The Employment of Women in the National Defense Program. November, 1941. 59 pp. Mimeographed. (Lists defense occupations suitable for women with particular reference to California.)

30. Eaves, Elsie. "Wanted: Women Engineers." *Independent Woman*, Vol. 21, No. 5. May, 1942.

31. *Factory Management*. "What Women Are Doing In Industry." March, 1942. (Discusses factors involved in bringing women into industry; women's jobs at Westinghouse and Vultee; safety clothing for women.)

32. Gove, Gladys T. "On the War Job." *Independent Woman*, Vol. 21, No. 5. p. 152. May, 1942.

33. *National Petroleum News*. "Sunoco Trains Fair Sex to Fill War's Vacancies at Stations." Vol. 34, No. 6, pp. 25-32. February 11, 1942. (Description of requirements, work, and training program.)

34. *New York State Employment Review*. "Employment Opportunities for Women in Industries Related to Defense." Vol. 4, No. 2, pp. 97-110. February, 1942. (Includes details for New York State on placements, and jobs for women in various industries.)

35. *The Woman's Press*. "War-Time Jobs for the Business Woman." By Florence Henley Schneider. Vol. 36, No. 3, pp. 131-2. March, 1942.

36. U. S. Employment Service. *Occupations Suitable for Women*. February, 1942.

37. *Vocational Trends*. "Women in the War: Women Who Can Nurse, Type, Knit, and Handle Factory Machines Are Vital to the Success of the War Effort." Vol. 5, No. 2. February, 1942.

38. _______________. "White Collar Workers and the War." Vol. 5, No. 5. May, 1942.

## TRAINING

39. U. S. Office of Education. "Enrollment of Women Encouraged by ESMDT." *Education for Victory*, Vol. 1, No. 2, pp. 8-9. March 16, 1942.

40. _______________. Job Training for Victory. *A Condensed Guide to Programs Authorized by Congress to Train Persons for Work in Defense Industries, Governmental Agencies, and the Armed Services*. New Revised Edition. February 1942.

41. _______________. *Training Women Defense Workers*. By Louise Moore. Washington, D. C., January 9, 1942. 9 pp. Mimeog. Misc. 3489.

42. _______________. "Vocational Training for Defense Workers: Training of Women." *Education for Victory*, Vol. 1, No. 4, pp. 16-17. April 15, 1942.

43. War Production Board. Labor Division. "Increasing War Production Through Employment of Women." *Training within Industry Bulletin #7*, March, 1942.

## WAGES, HOURS, AND WORKING CONDITIONS

44. National Association of Manufactures. Equality for Women in War Jobs Urged by N.A.M. President. Press Release, May 1, 1942. 7 pp. Mimeographed. (Recommends policies as to pay, working conditions, clothing, hours, shifts, supervision, etc., in bringing women into industry. Based on discussions at "women clinics" held in war producing centers.)

45. ______________. N.A.M. Suggestions with Respect to the Employment and Training of Women for War Jobs, April 15, 1942. 6 pp. Mimeographed. Similar material presented in N.A.M. Labor Relations Bulletin, No. 41, May, 1942.

46. National Industrial Conference Board. Women in Factory Work. Studies in Personnel Policy, No. 41. 1942. (A manual for employers that discusses factors to be considered in taking on women: suitable jobs, training, supervision, pay, hours, conditions, etc.)

## SOCIAL AND PSYCHOLOGICAL PROBLEMS

47. Barnard, Eunice Fuller. "Definitely Woman's Work." Independent Woman, Vol. 21, No. 4, pp. 106-8. April, 1942. (Nursery school needs and work.)

48. Hepner, H. W. "Supervising Women Employees: The Influx of Women Workers into War Industries Has Begun to Pose New and Perplexing Psychological Problems for Many Employers." Personnel, Vol. 18, No. 5, pp. 269-275. March, 1942.

49. Social Service Review. "The Children's Bureau Plans for Children of Working Mothers." Vol. 15, No. 4, pp. 765-7. December, 1941. (Gives 10-point statement of principles.)

## GREAT BRITAIN

50. Birdwell, Russell. "Women in Battle Dress." Times-Herald, January, 1942. (Series of 8 articles on all types of war work done by women.)

51. Browne, B. E. "Britain's Women in Battle Dress." Christian Science Monitor. March 14, 1942.

52. Chemical Industries. "Women Workers in the Chemical Industry." (Digest from British The Chemical Trade Journal.) No. 50, p. 97. January, 1942.

53. Gauntlett, Pamela J. "A Survey of the Problems of the Employment of Women in War-time." Labor Management, Vol. 24, No. 257, pp. 23-28. February, 1942.

54. Grace, Kathleen M. "Women as Engineers: Organization and Administration of a Training Center." *The Journal of Careers*. III. Elimination of Leakage Tendencies, October-November, 1941; IV. Sustained Output, February-March, 1942.

Entire article.

55. Great Britain. Industrial Health Research Board. *Hours of Work, Lost Time, and Labor Wastage*. London, 1942. (Includes data on women.)

56. Great Britain. Ministry of Labor and National Service *Engineering Bulletin*. "Rebuilding Road Vehicles with a Team of One-Hundred and Fifty Women;" "Arc Welding for Women: How a Technical College in the Midlands is Successfully Training Women Welders for the Local Industries;" "More Women Are Wanted: How Good Working Conditions Attract Suitable Recruits." No. 8. January, 1942.

57. ______________. "Women Build Marine Engines: How the Shortage of Labor is Being Overcome By Training on the Job;" "Rebuilding Crashed Aeroplanes: A Courageous Experiment That Provided, After Many Difficulties, the All-Woman Answer to the Job;" "Women on Higher Grade Work: How They Are Filling Responsible Positions in Workshop, Office, and Laboratory." No. 9. February, 1942.

58. ______________. "Women on High Grade Work - II: Some Significant Instances from Workshops on Various Classes of War Production;" Spotlights on Production;" "The Right Girl and the Right Job: How Tests for Intelligence and Aptitude Are Assisting in the Construction of Flying Boats;" "Dilution in the Foundry: An Exacting Field for the Employment of Girls and Women." No. 10. March, 1942.

59. Great Britain. Ministry of Labor and National Service. *The Ministry of Labor Gazette*. "National Service for Women: -- Calling Up Women Under the National Service (No. 2) Act, 1941; Industrial Registration of Women; "Registration for Employment Order, 1941: Registration of Women." Vol. 50, No. 1. January, 1942.

60. ______________. "Hours of Employment of Women and Young Persons." Vol. 50, No. 2. February, 1942.

61. ______________. "Registration for Employment Order: - Further Registrations of Women; Withdrawal of Women Aged 26-30 from Retail Distribution." Vol. 50, No. 3. March, 1942.

62. ______________. "Undertakings (Restriction on Engagement Order): Directions Regarding Women Aged 31 and Over." "National Service for Women: Calling Up of Women Students;" "Measures to Promote the Employment of Part-Time Workers;" "Married Women in Industry and Commerce [Leave];" "Women Supervisors: Courses of Lectures." Vol. 50, No. 4. April, 1942.

63. Great Britain. Parliament. House of Commons. Select Committee on National Expenditure. Session 1940-41. Twenty-First Report, "Output of Labor;" Twenty-Fifth Report, "Statement Relating to Production." (not specifically about women.)

64. ______________. Session 1941-42. Sixth Report. "Medical Services of the W.R.N.S., A.T.S. and W.A.A.F." 10 pp.

65. International Labor Review. "The Impact of War on Long-Term Unemployment in Great Britain." Vol. 45, Nos. 1 and 3. January and March, 1942. (Includes discussion of women's unemployment.)

66. International Women's News. "Tools and the Woman." Vol. 36, No. 5. February, 1942. (Discusses the status of women in the workshop.)

67. Labor Management. "The Transfer of Women to Vital War Work. The Use of Directions By the Government: A Speech by Mr. R. M. Gould, Ministry of Labor and National Service." Vol. 24, No. 256, pp. 405. January, 1942.

68. Supervision. "Output Rises Sharply As Britain Increases War Workers Comfort." By A. P. Luscombe Whyte. January, 1942.

69. ______________. "British Experience Shows Women on Night Work Look After Themselves Better Than Men, Solving Fatigue Problem." By J. L. Benvenisti. February, 1942.

70. The British Library of Information. Bulletins from Britain:

No. 67. "Short Reading Lists: British Women in Wartime," December 10, 1941.
No. 77. "Women Scientists Play Vital Part in War Effort." By Winifred C. Cullis. February 18, 1942.
No. 78. "Women in Britain: They Have Proved They Can Do the Job." By Winifred C. Cullis. February 25, 1942.
No. 79. "Nurseries Free Mothers for War Work." By Winifred C. Cullis. March 4, 1942.
No. 81. "Women in Britain: They Work for R.A.F., Railroads, Subways." March 18, 1942.
No. 84. "Women in Britain: 'Red Cap' Service Police." April 8, 1942.
No. 89. "One-Half of Aircraft Workers [in most factories] Now Women." May 13, 1942.

71. The Economist. "Women's Pay." Vol. 141, No. 5127, pp. 646-7. November 29, 1941.

72. The Manchester Guardian. "Absenteeism in Munitions." May 1, 1942. (Gives comparative data for men, single women, married women.)

73. The Woman Engineer. "Women in the Engineering Department of the B.B.C." Vol. 5, No. 9, pp. 136-7. December, 1941.

74. ____________. "I Find." Vol. 5, No. 9, pp. 132-3. December, 1941. (Accounts by individual women of what they are doing in the war, and what difficulties they are experiencing.)

75. Women's Employment:

"Face to Face With It." By an A.T.S. Officer. January 16, 1942.
"Psychiatric Social Work in Wartime." By Kathleen Edkins. February 20, 1942.
"The Nursing Services." By Muriel M. Edwards. March 6, 1942.
"Versatile WRENS" March 6, 1942.
"The W.A.A.F. At Work." March 20, 1942.
"A Niche for Every Woman." April 17, 1942. (Opportunities for educated women in factories.)

76. White, Margaret. "Health Services, with Special Reference to the Problems of Women Workers." Industrial Welfare and Personnel Management, Vol. 24, No. 280, pp. 39-40. March, 1942.

CANADA

77. Canada. Bureau of Statistics. Recent Expansion of Industrial Employment and Sources of Labor Supply. Ottawa, 1942. 11 pp. Mimeographed. 25¢ (Includes data on women.)

78. Industrial Canada. "Increasing Demand for Women in War Work." Vol. 42, No. 11. March, 1942. (Types of work women perform.)

79. Michell, H. "The Place of Women in the National Emergency." Industrial Canada, Vol. 12, No. 9, pp. 103-5. January, 1942. (Gives data for women from National Registration of August, 1940.)

80. Smellie, E. L. "Canadian Women in Wartime." Women's Press. Vol. 36, No. 1, pp. 28-29. January, 1942. (Information on Canadian Women's Auxiliaries.)

81. U. S. Department of Labor. Wage and Hour Division. Wartime Regulations of Wages and Hours in Canada. December, 1941. 63 pp. Mimeographed.

## VARIOUS COUNTRIES

82. Grunfeld, Judith. "Women's Work in Russia's Planned Economy." Reprinted from Social Research. February, 1942. (Background to current situation.)

83. International Labor Review. "Recent Aspects of the Employment of Women in Germany." Vol. 45, No. 3, pp. 286-296. March, 1942.

84. Thibert, Marguerite. "Women in the War and Their Problems: The Call to Them and Their Response." Women's Press. January, February, 1942. (Mobilization and War Work of Women in European Countries.)

Miss Pidgen

WOMEN'S BUREAU
U. S. DEPARTMENT OF LABOR
WASHINGTON

# RECENT MATERIAL ON DEFENSE

Research Division (Miss Hooks)
List No. 5, January 1, 1942

The Research Division is closely following publications on Defense through the Library and other Government agencies. Of some of this material the Bureau Library also has its own copies.

This list includes material on:

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Occupations and Industries ................p. 4
Current Material on Women in Defense
(Other Than Women's Bureau).........p. 4

## GREAT BRITAIN

| | | References to women |
|---|---|---|
| 1. | Biddle, Margaret. The Women of England. Boston, Houghton Mifflin Company, 1941. 99pp. | Emphases on women's auxiliaries, volunteers, civil defense services, with a chapter on women in factories. |
| 2. | Grace, Kathleen M. "Women as Engineers: Organization and Administration of a Women's Training Center: II - Moulding During Training; Elimination of Leakage Tendencies." The Journal of Careers, August-September, and October-November, 1941. | Entire Articles. |
| 3. | Great Britain. Ministry of Labor and National Service. Engineering Bulletin. Monthly publication beginning June, 1941. | Contains articles on training of women, employment standards, and processes which they perform. |
| 4. | ______________. Fighting Fit in the Factory. (1941). | Suggestions as to health and safety, important to women in view of the employment of numbers of new women workers. |

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| 5. | ______________. Annual Report of the Chief Chief Inspector of Factories for the year 1940. | Concerned incidentally with women. |
| 6. | ______________. Releases:<br>E.D.L. 66 Rev. . Registration for Employment Order, 1941. Notice to Women who Have Registered.<br>E.D.L. 67. . Scheme for Registered Minders.<br>E.D.L. 74 . Registration for Employment Order, 1941. Notice to Women Deemed Available for Vital War Work.<br>E.D.L. 75. Registration for Employment Order, 1941. | Explanation of orders applying to women. |
| 7. | ______________. Leaflets on War Work:<br>P.L. 83. Going Away on War Work.<br>P.L. 83A. On Your Way to the New Job.<br>P.L. 84. Engineering Training for Women.<br>P.L. 86. Additional Meals at Factory Canteens; Breaks During Long Spells of Work.<br>P.L. 87. The Employment of Women: Suggestions to Employers. (Previously listed in Report No. 3, July, 1941).<br>P.L. 88. Revised System of Payments to Trainees. | Range from general information to information directed specifically to women. |
| 8. | ______________. "The Drive for Victory" Leaflet Series: British Man Power, June, 1940.<br>Schedule of Reserved Occupations, August, 1940.<br>Industrial Relations, October, 1940.<br>Training for Wartime Work in the Engineering Industry, August, 1941.<br>Safety, Health and Welfare of Factory Workers, September, 1941. | Only incidental references to women. |
| 9. | Great Britain. Parliament. House of Commons. Seventeenth Report from the Select Committee on National Expenditure. "Labor Problems in Filling Factories." | Includes data on female absenteeism. |
| 10. | ______________. Twenty-First Report from the Select Committee on National Expenditure. "Labor Problems in War Industries." | Includes treatment of labor problems concerning women. |
| 11. | Haslett, Caroline. "Women in War-Time Engineering." The Woman Engineer. Vol. 5. No. 8. Autumn, 1941. | Entire Article. |

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| 12. | ______________. "Women in War-Time Engineering." Bulletins from Britain. No. 65. New York, The British Library of Information, November 23, 1941. | Entire Article. |
| 13. | Industrial Welfare and Personnel Management. "Taking on Women Workers. The Employment and Welfare Arrangements Involved." By a Welfare Superintendent. Vol. 23, No. 274. September, 1941. | Entire Article. |
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# WOMEN'S PART IN WORLD WAR II
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Andrew J. May, chairman.
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Submitted by Mr. May. UA24.A7 1942sg
Includes recommendations of the Chief of staff, Gen. G. C. Marshall, and a report by the Secretary of War, Henry L. Stimson.

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The reports of the Senate and House are identical.

Note: For debates in the House and Senate, and separate speeches, see under Congressional Record at the end of this section.

98 Woman's Army Auxiliary Corps. United States Army and navy journal (New York), Feb. 7, 14, 1942, v. 79: 624, 647. U1.U7,v.79

99 Women and war. Editorial. Commonweal (New York), Mar. 27, 1942, v. 35: 549. AP2.C6897,v.35
Opposed to establishment of Women's Army Auxiliary Corps. Recommends a vote on the issue by the soldiers.

100 Women want to join for war but run into some skepticism. Newsweek (New York), v. 19, Jan. 12, 1942: 23. AP2.N6772,v.19

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### 77th Congress, 2d Session
### Vol. 88 (current file)

101 U.S. Congress. House. Debate in the House on the Rogers bill, Feb. 6, 1942. No. 27, p. 1125.
Includes a letter from the Chief of staff, dated Feb. 6, 1942.

102 ----- ----- Same, Mar. 16, 1942. No. 54: p. 2600-2604.
Includes remarks by Representatives Nichols, May, Michener, Hoffman, Rich, Hinshaw and Rogers.

103 ----- ----- Same, Mar. 17, 1942. No. 55: p. 2658-2684.
Includes remarks by Representatives Andresen, Andrews, Bolton, Brooks, Bulwinkle, Clason, Cole, E. E. Cox, Faddis, Fish, Fulmer, Gifford, Hare, Harness, Hinshaw, Hoffman, Edwin C. Johnson; Luther A. Johnson, Kerr, May, Michener, Nichols, Mary T. Norton, O'Hara, Patrick, Pheiffer, Poage, Randolph, Rich, Robsion, Rogers, Rolph, Sabath, Sheppard, Somers, Sparkman, Springer, Stefan, Thomason, Van Zandt, and Wadsworth.
The bill was passed. Vote: p. 2684.

104 ----- Senate. Debate, Apr. 27, 1942. No. 81, p. 3820, 3821-3827.
Remarks by Senators Elbert D. Thomas, Vandenberg, Schwartz, Barkley, Lucas, LaFollette and George.
The bill was recommitted to the Committee on military affairs.

105 ----- ----- Debate, May 12, 1942. No. 91, p. 4222-4229.
Remarks by Senators McNary, Austin, Edwin C. Johnson, Chandler, Danaher, Maloney and Reynolds.
The bill was passed, vote recorded: p. 4229.

* * * *

100a Lyons, Louis M. Women rush to sign up in W.A.A.C. More than 150,000 authorized have applied for service. Star (Washington), May 16, 1942, p. A9.
Mrs. Oveta C. Hobby, director.

100b W.A.A.C. will open recruiting offices in about two weeks ... applications for officers' training school at Des Moines. Star (Washington), May 16, 1942, p. A4.

106 Lincoln, Gould. Founding of Women's army auxiliary corps expected shortly on voluntary basis. Article from Washington Evening Star, Feb. 26, 1942. Ext. of remarks of Edith Nourse Rogers, Mar. 10, 1942. No. 50, p. A1017-A1018.

107 May, Andrew J. Women's Army Auxiliary Corps. Speech in House, Mar. 17, 1942. No. 56, p. A1163-A1164.

108 Robsion, John M. Women's Auxiliary Army Corps—Why deny this recognition to the patriotic women of the nation? Extension of remarks, Mar. 17, 1942. No. 56, p. A1166.

109 Rogers, Edith Nourse. Woman corps. Editorials from the Dallas News and Boston Herald. Extension of remarks, Feb. 2, 1942. No. 23, p. A375.

110 ——— Volunteer Women's Army Auxiliary corps. Extension of remarks, Feb. 5, 1942. No. 27, p. A475.

Letters from Oregon Women's ambulance corps and Women's ambulance and transport corps of California, inc.

111 ——— Remarks on H. R. 6293. Feb. 11, 1942. No. 30, p. 1250.

112 ——— Letter concerning House bill 6293 [from young lady in Kansas to Miss Ruth Cowan]. Extension of remarks, Feb. 19, 1942. No. 36, p. A693-A694.

113 ——— Women's army auxiliary corps. Extension of remarks, Mar. 13, 1942. No. 53, p. A1078-A1081.

One letter selected at random from each state of the union from which thousands have been received.

114 ——— Women's Army Auxiliary Corps. Article from Boston Herald of Mar. 15, 1942. Extension of remarks, Mar. 28, 1942. No. 64, p. A1369.

115 ——— The Women's Army Auxiliary Corps. Radio address, March 30, 1942. Extension of remarks, Mar. 31, 1942. No. 66, p. A1397-A1398.

116 Southard, Charles F. When mother goes to war. [Poem] Extension of remarks of Andrew L. Somers, Mar. 18, 1942. No. 57, p. A1197.

117 ——— When mother goes to war. [Poem] Extension of remarks of Hon. Hampton P. Fulmer, Mar. 23, 1942. No. 59, p. A1246.

Includes also a letter denouncing the bill by R. W. Bushee.

## WOMEN'S AUXILIARY RESERVE IN THE NAVY (PROPOSED)

118 The Ladies are coming. Our navy (Brooklyn, N. Y.), v. 36, Mid-May, 1942: 3. V1.07,v.36
Editorial on the establishment of the Women's Auxiliary Reserve in the Navy.

119 U.S. *Congress*. *House*. H.R. 6807. To establish a Women's Auxiliary Reserve in the Navy. Introduced by Hon. Melvin J. Maas, Mar. 18, 1942. Referred to Committee on Naval affairs. Congressional Record, 77th Cong., 2d sess., v. 88, no. 56, p. 2732. J11.R7,v.88

120 ----- *Senate*. S. 2388. To establish a Women's Auxiliary Reserve in the Navy. Introduced by Senator Raymond E. Willis, Mar. 19, 1942. Referred to the Committee on Naval affairs. Congressional Record, 77th Cong., 2d sess., v. 88, no. 57, p. 2774. J11.R7,v.88

These two bills did not receive the official approval of the Navy Department nor the Bureau of the Budget. On May 14, 1942, Senator Walsh introduced a new bill in the Senate (S. 2527). See Congressional Record, 77th Cong., 2d sess., v. 88 (current file), no. 93, p. 4308-4309. Included is a letter with recommendations by Rear Admiral Randall Jacobs.

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Discussion of the Maas bill recently introduced in Congress.

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128 Folks, Helen F. Be a nurse and see the world! Independent woman (New York), Oct. 1941, v. 20: 300-302, 311. HD6050.N3,v.20

129 Have you enrolled? American journal of nursing (New York), Oct. 1941, v. 41: 1179-1180. RT1.A5,v.41

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131 Naval reserve nurse corps. American journal of nursing (New York), Apr. 1941, v. 41: 385-386. RT1.A5,v.41

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133 Nursing and the national defense program. American journal of nursing (New York), Mar.-Aug. 1941, v. 41: 348-350, 482-484, 610-616, 714-716, 844-847, 956-961. RT1.A5,v.41

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135 Red Cross nursing and the army. American journal of nursing (New York), July, 1940, v. 40: 791-794. RT1.A5,v.40

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139 Will army nurses' pay be increased? American journal of nursing (New York), Dec. 1941, v. 41: 1423. RT1.A5,v.41

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# GREAT BRITAIN

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The author is the wife of the American minister to Poland, now stationed in London.
An account of the various British wartime organizations, namely, Women of the W.R.N.S. (Women's Royal Naval Service); W.A.A.F. (Women's Auxiliary Air Force); F.A.N.Y. (Field Auxiliary Nursing Yeomanry), etc., as well as women in factories, in the land army, as cooks, air wardens and canteen workers. Includes a chart as frontispiece, and well illustrated. Could be used as a handbook for women's work.
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302 Goodwin, H. S. War service for women; a complete guide. London,
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1940. 286 p. D811.5.J3
Work in war-time: p. 208-219.

305 Kennedy, Margaret. Where stands a winged sentry. New Haven, Yale
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Originally appeared in the Highland news. cf. Foreword.

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UB345.G7A5 1941b

373 ----- Parliament. House of Commons. Maximum national effort. Debate, Dec. 2-4, 1941. (In its Parliamentary debates, 5th ser., v. 376, no. 9, col. 1034-1106; no. 10, col. 1163-1227; no. 11, col. 1297-1365. Doc. Div.

See especially speeches of Prime Minister Churchill, and the Minister of Labour, Mr. Ernest Bevin.

This bill called for the registration of all women. Vote recorded, col. 1362-1366.

Legislation to carry out the opinion of the House was taken up in the National service bill.

374 ----- ----- ----- National service bill. Debate, Dec. 9-11, 1941. (In its Parliamentary debates, 5th ser., v. 376, no. 13, col. 1424-1512; no. 14, col. 1570-1660; no. 15, col. 1730-1804. Doc. Div.

The bill was passed.

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| DA | Dept. of Agriculture Library, Washington, D. C. |
| DL | Dept. of Labor Library, Washington, D. C. |

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# WOMEN'S CONTRIBUTIONS IN WARTIME

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# WOMEN'S CONTRIBUTIONS IN WARTIME
## A List of References to Recent Material

Compiled in the Library under the supervision of
Sabra W. Vought, Librarian, by Helen Ellis Wheeler

The increasingly important role that women are playing in a war-torn world, has given rise to the need for information regarding their efforts as homemakers, volunteers, and workers; this brief list was compiled in the hope that it might prove both informative and stimulating in regard to women's activities. The assistance and interest of Miss Louise Moore and Mrs. Marguerite W. Zapoleon of the U. S. Office of Education staff, are gratefully acknowledged.

American association for adult education. Women in defense. New York, The Association, 1941. 23 p. illus. 50 cents.

Woman's role in defense is dramatized in the stories of a worker, a volunteer, and a homemaker (consumer), showing the specific contribution which each could make. The digest is designed to stimulate discussion about real problems.

American association of university women. Journal vol. 35:27-30. October 1941. Editorial: A.A.U.W. service for national security.

Briefly outlines a number of areas in which the A.A.U.W. can contribute to national defense, and demonstrate "that education for women is an immeasurable source of national strength."

------- Journal vol. 35:30-1. October 1941. Editorial: Defense creates new

A rise in the demand for women's services is indicated through recent statements and figures obtained from such sources as U. S. Civil Service Commission, U. S. Public Health Service, Office of Civilian Defense, U. S. Women's Bureau, Federal Security Agency, and such organizations as the National Association of Retail Grocers, and American Medical Women's Association.

------- Journal vol. 35. January 1942.

This issue is devoted to discussion of women's efforts toward helping to win the war, and contains "The AAUW Program in Wartime."

Amidon, Beulah. Woman's place in the defense program. Educational Record 23:403-13. July 1941.

Describes services being performed by women in the armed forces, government, and industry. Also stresses that the "total defense" of the nation requires that women should go on doing the work in the Home and in the community which contributes to the health and well-being of the citizens, and "do it better."

Anderson, Dice R. College women and the national crisis. Southern Association Quarterly 5:338-41. August 1941.

A man expresses his opinion about ways in which college women will contribute to the national defense - in addition to the usual call upon them to "endure sacrifices cheerfully." Those qualified in physics, chemistry, and biology are "potential scientific laborers"; they should all be centers of information; should help to protect the country from foreign ideologies; and defend social gains and cultural life.

Biddle, Margaret. The women of England. Boston, Houghton Mifflin Company, 1941. 99 p. illus. $1.75.

Described the great variety of organizations in which English women are working to help win the war. Possible fields of work for women in a country at war are surveyed, and methods suggested of preparing for them. The book is the work of the wife of the American Ambassador to Poland, stationed in London.

Cassidy, Rosalind. Women's education in a world at war: ends and means. Progressive Education 18: 349-58. November 1941.

"In times both of war and of peace woman's role and woman's task is that of conserver, healer, and rebuilder of what men destroy." The ends to be attained and the means by which many colleges are trying to reach them is brought out.

Christie, Margaret. White collar women behind defense. Independent Woman 20:324-26, 349. November 1941.

A pleasing style marks this descriptive account of some of the jobs the erstwhile white collar women are filling.

Conference on training women for defense needs. Woman Worker 21:4-5. January 1941.

Report of a conference quoting data on the number of girls and women enrolled in courses which develop skills for industrial jobs. Includes a statement of the work for which women should be trained.

Employment of women in defense industries. Monthly Labor Review 52:1147-51. May 1941.

This report supplies data from a survey made in the fall of 1940 by the Women's Bureau of the possibilities of employment of women in defense industries, the types of skilled women available for work, and the kinds of work for which women should be trained.

Folks, Helen Fournay. Be a nurse and see the world? Independent Woman 20:300-302. October 1941.

This article stresses the need for nurses in the military services, even before October, but reveals that the opportunities for travel are not as great as might be expected, as so many nurses are needed for hospital service in the United States.

Gildersleeve, Virginia C. Service and sacrifice; women's colleges and the national emergency. Association of American Colleges Bulletin 27:605-13. December 1941.

Discusses the values of the liberal arts curriculum even in such a world as today, and also outlines some of the part-time and volunteer activities set up for undergraduates of Barnard College which would make them realize to some extent the service and sacrifice needed to win the war.

Greenbie, Marjorie Barstow. New skills and how to acquire them. Independent Woman 20:175. June 1941.

A challenge to women to acquire new skills in work and in living to meet the present crisis. Suggestions are made on how to go about the task.

Hall, Etha G. Women in civilian defense. Pilot Log 16:7-8. December 1941.

A brief report of a conference called by Mrs. Eleanor Roosevelt which brought together the representatives of women's organizations. The objectives of the Office of Civilian Defense were explained and the need indicated for a vast number of volunteer workers.

McMillin, Lucille Foster. The first year; a study of women's participation in Federal defense activities. Washington, U. S. Civil Service Commission, 1941. 39 p. illus.

One of the U. S. Civil Service Commissioners presents a resume of the work of women in the Federal service prior to 1940, as well as descriptions of the "picturesque" and important jobs they are filling in the present program. Training opportunities for women are briefly discussed. Studies of women workers in the World War, and since, reveal that "women can satisfactorily perform almost any type of work."

Murphy, Mary E. War and the woman's college. Journal of Higher Education 12:143-45. March 1941.

Indicates that faculties of women's colleges are too much concerned with maintaining traditions and curriculums, and recommends that they consider "human and physical facilities, and formulate a program for their maximum utilization" in order that college-trained women may make an effective response if greater demands are made of them.

National federation of business and professional women's clubs, inc. Strengthen democracy for defense. The program book 1941-1942. New York, The Federation, 1819 Broadway, 1941. 96 p. 50 cents.

Plans and suggestions for the use of club presidents and program committees aimed to help them in strengthening democracy through all kinds of club activities.

National federation of business and professional women's clubs, inc. The vocational program for preparedness, New York, The Federation, 1819 Broadway, 1941. 8 p. Mimeog. 10 cents.

Detailed suggestions to aid clubs in formulating a comprehensive picture of their communities' vocational problems, and to solve some of them.

Owen, M. C. Young women in war-time; education in the Y.W.C.A. 1940-1941. Adult Education (London) 13:204-9. June 1941.

Processes women are performing in defense industries. Woman Worker 21:6-8. January 1941.

In the fall of 1940 about 40 plants working on defense contracts were visited by agents of the Women's Bureau to investigate the possibilities of the employment of women. Various processes on which women are already engaged are described.

Robey, Margaret Durham. Junior college women in national defense. Junior College Journal 12:25-6. September 1941.

The private junior college is said to be in a particularly favorable position to contribute to character-building, physical health, emotional stability, and self-reliance of its students, thereby preparing them to meet crises bravely and intelligently.

Stewart, Isabel M. Nursing education and national defense. American Journal of Nursing 40:1376-85. December 1940.

A comprehensive discussion of the problems of educational preparedness and programs for the whole nursing profession which is "automatically drafted for service in the national preparedness program." A "Nursing Council on National Defense" has been organized to study the situation and prepare plans for meeting the emergency.

Strang, Ruth M. Women's education and defense. Educational Forum 5:380-8. May 1941.

Four main attitudes toward the problem of women's education as affected by world conditions, are deduced from information received from a sampling of leading high schools, colleges, and universities. How these attitudes are expressed in defense programs is discussed; the author indicates, however, that they need to be further strengthened by "an emotional ideal of brotherhood," and that women are indispensable in the development of spiritual values.

U. S. Office of Civilian Defense. A civilian defense volunteer office. Washington, D. C., The Office, 35 p. n.d.

"What it is; how it is set up; what it does; how to organize it."

U. S. Office of education. Women and national defense, by Marguerite W. Zapoleon. Washington, D. C., The Office, 1941. 11 p. Mimeog.

Summarizes the activities of women in government, in industry, in schools and colleges, and through professional and volunteer organizations.

------- Women in defense training. Washington, D. C., The Office, 1941, 2 p. Mimeog. (Misc. 2807).

Message from Commissioner Studebaker to State executive officers calling attention to expanding defense industries and the possibilities of training women to fit into some "niches."

------- Women train for national defense. Washington, D. C., The Office, 1941. 4 p. pross. (March of education. March 1941. Suppl. no. 1)

Brief account of vocational training courses for women by geographical location. Also describes opportunities for their training in other organizations.

U. S. Women's bureau. Effective industrial use of women in the defense program. Washington, U. S. Government Printing Office, 1940. 22 p. 5 cents. (Special bulletin no. 1)

Discusses factors which must be taken into account when considering women for industrial work; these relate to the physical characteristics of the job, safety measures and sanitation, seats, work clothing, hours of labor, and suitable training.

------- **Lifting heavy** weights in defense industries. Washington, U. S. Government Printing Office, 1941. 11 p. illus. 5 cents.

A Study of methods which conserve the health of women workers employed in lifting.

------- Safety clothing for women in industry. Washington, U. S. Government Printing Office, 1941. 11 p. 10 cents (Special bulletin no. 3).

Suitable clothing for each job helps to avoid accidents. Shoes, foot protectors, goggles, caps and head scarfs, slacks and blouses, and gloves are among the articles which have been designed for comfort and protection as well as natty appearance.

------- Women's factory employment in an expanding aircraft production program. Washington, U. S. Department of Labor, Women's Bureau, 1941. 25 p. Mimeog.

At the present time the proportion of women employed as aircraft factory workers is infinitesimal; this gives a suggestive list of the principal jobs on which women may be effectively employed, discussed in detail.

Wallace, Mrs. Estelle H. Our part - home defense. Practical Home Economics 19:334-5. October 1941.

Outlines the role of home economists in national defense as one of helping to develop morale; establish community organization and cooperation;

promote health through diet; improve housing, clothing, and recreational facilities.

Walters, Lydia A. Training women for industry. Baltimore Bulletin of Education 19:73-4. November-December, 1941 and January 1942.

The national defense emergency has created a need for women in industry, especially in the manufacture of radios, airplanes, and precision instruments. Women are said to be especially good at work requiring care, constant alertness, good eyesight, manipulative dexterity, and speed. This article describes the units of instruction for women who have had no experience with tools.

Ware, Caroline F. Defense and the consumer. Journal of Adult Education. 13:288-91. June 1941.

Watson, Julia. Careers in the crisis. International Altrusan 19:7-9. November 1941.

"An overview of current trends in banking, aviation, railroads, journalism, and market research."

Woman's part in defense discussed at Woman's National Press Club, New York. Women's Wear. Daily. November 26, 1941.

Women in national defense. Quality Grocer 18:9,13. December 1941.

Women will have to be considered seriously as grocery clerks, as well as in other clerking jobs heretofore reserved for men. Data is included, apparently of recent date from a New York Times Magazine article, giving the number of women employed in armament and other defense industries.

Women's chances for defense jobs. Woman Worker. 21: 3. January 1941.

Advice on how to go about getting a defense job. If specific skills have not already been acquired, they should be.

Women's education. Women's Work and Education 11:6. December 1940.

A list of suggestions formulated by the Commission on Education of the Woman's Centennial Congress at its New York City meeting in November 1940, and sent to womens' organizations of the country "as a basis for action on education as a factor in the defense of democracy."

Women's job chances in defense and other work. Woman Worker 21:5-6. May 1941.

Gives data for the latter part of 1940.

Addresses of Magazines from Which References Were Taken.

Adult Education. British Institute of Adult Education, 29, Tavistock Sq., London, W.C.1.

American Journal of Nursing. American Journal of Nursing Company, 1790 Broadway, New York.

Association of American Colleges Bulletin. Association of American Colleges, 19 W. 44th St., New York.

Baltimore Bulletin of Education. Bureau of Measurement, Statistics, and Research, 3 E. 25th St., Baltimore, Md.

Educational Forum. Kappa Delta Pi, E.I.F. Williams, Treas., Heidelberg College, Tiffin, Ohio.

Educational Record. American Council on Education, 744 Jackson Pl., N.W., Washington, D. C.

Independent Woman. National Federation of Business and Professional Women's Clubs, 1819 Broadway, New York.

International Altrusan. International Association of Altrusa Clubs, 1501 W. Washington Road, Mendota, Ill.

Journal of Adult Education. American Association for Adult Education, 60 E. 42d St., New York.

Journal of Higher Education. Bureau of Educational Research, Ohio State University, Columbus, Ohio.

Journal of the American Association of University Women. American Association of University Women, 1634 I St., N.W., Washington, D. C.

Junior College Journal. American Association of Junior Colleges, 730 Jackson Pl., N.W., Washington, D. C.

Monthly Labor Review. U. S. Department of Labor, Washington, D. C.

Quality Grocer. Quality Bakers of America, 120 W. 42d. St., New York.

Pilot Log. Pilot International, Macon, Ga.

Practical Home Economics. Lakeside Publishing Company, 468 4th Ave., New York.

Progressive Education. Progressive Education Association, 221 W. 57th St., New York.

Southern Association Quarterly. Duke University Press, Durham, N. C.

Woman Worker. U. S. Women's Bureau, Washington, D. C.

Women's Wear Daily. Women's Wear Co., 8 E. 13th St., New York.

Women's Work and Education. Institute of Women's Professional Relations, Connecticut College, New London, Conn.

**WOMEN'S BUREAU**
U. S. DEPARTMENT OF LABOR
Washington

## CURRENT MATERIAL ON WOMEN AND THE DEFENSE PROGRAM

American Association for Adult Education. "Women in Defense."
Defense Digest No. 5. 23 pp. 1941. 10¢

California Department of Employment. "Women for the Aircraft Industry: training classes for female aircraft workers." by V. L. Rowley
*Careers.* (Processed). Sacramento, August-September, 1941, pp. 6-7.

*Independent Woman.* "Training for Defense."
by Helen Dallas. April, 1941. (Published monthly by the National Federation of Business and Professional Women's Clubs.)
"How to Mobilize Womanpower." November, 1940.

McMillin, Lucille Foster. *The First Year. A Study of Women's Participation in Federal Defense Activities.* United States Government Printing Office, 1941. 39 pp.

New York State Department of Labor. "Commissioner Miller Says -."
*Industrial Bulletin.* February 1941.
Women's Wages in Boom Time. Industrial Bulletin, October 1941.
Trends in Employment of Women, Industrial Bulletin, November 1941.

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Office of Emergency Management. "Women Workers for Defense Industries."
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Office of Production Management. Labor Division. Labor Supply and Training Section. *Women's Role in Defense Industries.* By Miss Thelma McKelvey. April 19, 1941. PM286. Mimeographed.

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U.S. Office of Education. "The Defense-Training Program." *School Life.*
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Articles in *The Woman Worker.* ( Bimonthly publication.)
- "Keep Up Standards for Women's Work." July, 1940.
- "Women Who Can Work in Defense Industries." September 1940.
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- "Women's Chances for Defense Jobs" and "Processes Women Are Performing in Defense Industries." January 1941.
- "Women Do Key Work in Defense Manufacturing", and "How Can Women Best Serve Defense. " March 1941.
- "Women's Job Chances in Defense and Other Work," May 1941.
- "More Women Placed in Defense Jobs." July 1941.
- "Defense Program Increases Need for Women Workers." November 1941

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"Women's Vocational Training Needs in Defense Industries." November 7, 1940.
"Women's Factory Employment in an Expanding Aircraft Production Program." May 1941.
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"Women in War Industries in Great Britain". October 1941
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Special Bulletins
No. 1. Effective Industrial Use of Women in the Defense Program
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Vocational Trends. "Women and War." October 1940. (Published Monthly by Science Research Associates, 1700 Prairie Avenue, Chicago, Illinois.)
"Bang-Up Jobs: Important to Defense Are the Jobs of Explosives Workers." February 1941.

Zapoleon, Marguerite W. Women and National Defense. U. S. Office of Education. Vocational Division, Occupational Information and Guidance Service. Misc. 2546. Washington. 1941. Mimeographed.
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Occupations. April, 1941. (Published monthly by the National Vocational Guidance Association.)

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WOMEN'S BUREAU
U.S. DEPARTMENT OF LABOR
Washington

# READING LIST: BRITISH WOMEN IN WARTIME

(Published in: The British Library of Information. Bulletins from Britain, No. 67, p. 16, December 10, 1941.)

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Biddle, M. Women of England. Boston, Houghton Mifflin, 1941. 99 pp. $1.75.
Brittain, V. England's Hour. N.Y., Macmillan, 1941. 230 pp. $2.50.
Brown, B.C. Women of Britain, Letters from England. N. Y., Harcourt Brace, 1941. 334 pp. $2.50.
Burton, E. What of the Women? London, Muller, 1941. 224 pp. 6s.
Delafield, E.M. Provincial Lady in War-time. N.Y., Harper, 1940. 349 pp. $2.50.
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Omnibus:
Forthcoming, an omnibus on the heroism of women in the countries fighting fascism, by Allied authors. About 400 pp. N.Y., Graystone Press. $3.00.

## B. Pamphlets

Barrett-Grey, L. You and the Women's Services. London, Crowther, 1941. 64 pp. 1s.
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Hamilton, C. The Englishwoman. N.Y., Longmans Green, 1940. 39 pp. 36 cents.
Summerskill, E. Women Fall In, a Guide to Women's Work in War-time. London, Hutchinson, 1941. 48 pp. 6d.

## C. Periodicals

British Red Cross Society, County of London Bulletin. Monthly. London, 43 Belgrave Square, S.W.1. Annual sub., 4s.
Engineering Bulletin. Monthly. London, Ministry of labour and national service.
Frau in Arbeit. Monthly. Mimeographed (the only refugee women's paper). London, 132 Westbourne Terrace, Paddington.
International Women's News. Monthly. London, Women's publicity planning association, 14 Dartmouth Street, S.W.1. Annual sub., 7s.
Labour Woman. Monthly. London, Labour party, Transport House, Smith Sq., S.W.1. Annual sub., 2s. 6d.
Land Girl. Monthly. London, Sidney Press.
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√ Woman Engineer. Monthly. London, Women's engineering society, 20 Regent Street, S.W. 1. Annual sub., 2s 6d.

Women's Voluntary Services Bulletin. Monthly. London, 41 Tothill Street.

U.S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

M.E.P

Research Division
(Miss Hooks, Miss Benham)
Report No. 9
November 10, 1941

# WOMEN IN DEFENSE EMPLOYMENT
(Notes on Specific Points)

Reports on:

Women Newly Employed or to be Employed

Women Employed on Defense Work

Women Replacing Men

Employment of Married Women

Labor Shortage Relating to Women

Training of Women

New or Expanded Plants that May Employ Women

Priority Unemployment Affecting Women

Other Subjects Related to Women's Employment

## WOMEN NEWLY EMPLOYED OR TO BE EMPLOYED

### CALIFORNIA

A San Diego airplane company reports 2,500 women will be employed as detail assemblers, with wives and mothers of present employees given first preference. The plant will train them.

Consolidated Aircraft Corporation plans to add 300 to 400 women to its mechanical force within the next few days. The women will be selected largely from the wives and relatives of men already employed for reasons of family morale and to avoid attracting women from other cities because of the crowded living conditions in San Diego. The women will serve their apprenticeship in departments other than those in which their male relatives are employed. They will perform duties incidental to precision assembly and light mechanical operations. (San Bernardino, Calif. Sun, August 26, 1941.)

### COLORADO

A new ammunition plant is to be opened to produce 30-caliber cartridges. Eventually it will employ about 10,000 persons turning out 4,000,000 cartridges a day. The government-owned plant will be operated by the Remington Arms Co., a du Pont subsidiary. Its force of 10,000 will include 4,000 women. (New York City World-Telegram, September 29, 1941.)

### ILLINOIS

About 2,500 girls 18 and over are to be hired at the Elwood Ordnance Plant for fuse assembly work. Applicants are given two pegboard tests and a fuse-assembly test. Younger girls just out of school with no background of factory experience are said to make excellent records on the test. Employment officials hope that the problems of housing the girl defense workers will be solved by enforcing the 40-mile residential limit. (Chicago News, October 14, 1941.)

### MARYLAND

The Maryland State Employment Service has placed nearly 300 persons (both men and women) in jobs in the explosive industry at Elkton. The work is in connection with the loading and assembling of detonators, fuses, flares, signal lights, etc. As this industry is expanded it is expected that the Employment Service will soon be called upon to assist in securing many times this number of factory workers, both male and female. (Maryland Employment News, October, 1941.)

## NEW YORK

Between 2,100 and 2,200 additional workers will be needed in the Elmira area by the early part of 1942, chiefly in two plants with defense orders of over 38 million. It is expected that 60-80 percent of those hired will be women. (New York State Employment Review, September, 1941.)

Girls from 18 to 22 years have been much in demand at the Sperry Gyroscope Company, Brooklyn since defense orders began last spring. They number 600 out of 16,000 employees and are said to be the largest unit of girl defense workers in any plant in New York. After a few weeks in the company training school they work on certain precision jobs, starting at $100 a month. On the same job the girls get the same money as men. According to the personnel director twice as many would be hired were it not for the night work law. The plant operates 24 hours but the girls are on the day shift only. (Sally Macdougall in the New York World Telegram, quoted in The Management Review, August, 1941.

## OHIO

A Barberton plant engaged in defense work has hired 24 girls from Ohio colleges for drafting jobs in their engineering department. This firm had hired women in the technical department during the World War, some of them still with the firm. The girls studied a six-weeks course on engineering drawing given by the company before beginning work. (Springfield, Mass. News, September 11, 1941.)

## TEXAS

At the San Antonio air depot women have been employed for years as fabric workers on airplanes and as workers in the parachute department in making flying suits, but for the first time a woman has been employed in the heavier mechanical trades in the shops. She is employed as a sheet metal worker. According to present plans a number of women will be employed in the shops within a month or so. (San Antonio Light, September 9, 1941.)

## WOMEN EMPLOYED ON DEFENSE WORK

### MAINE

The Bates Manufacturing Company in Lewiston, which makes 70 percent of all navy bedspreads, has about 100 women working on these spreads in spinning, warping, winding, weaving, inspecting, folding, wrapping, and sorting.

At South Brewer the Eastern Corporation mill has 110 women on the payrolls, wrapping and sealing packages of paper, counting and sorting, labelling and inspecting.

In the Byer Manufacturing Company at Orono some 75 women work on military equipment including such work as stitching canvas gas-mask carriers and field bags.

Women perform important jobs at the American Woolen Brown mills at Dover-Foxcraft, manufacturers of cloth for the Army, Navy, Marines and Red Cross.

More than 20 women are engaged in making snow footgear at Norway. They weave the 600 feet of fine lacing required for the heel and toe of the Alaskan shoe in an hour and a half, while skilled men take 2 hours.

At the Bass factory in Wilton more than 80 women do all the fitting and stitch the uppers of 14-inch, 15 eyelet boots. They also are working on leather overshoes. Improved machinery increased the use of women.

Thirty or more women are employed at the Southworth Machine Company in Portland on airplane parts in such jobs as polishing after the parts are turned out.

Photographs: "Filling" heels and toes of snow shoes; removing imperfect specimens from high grade paper stock; stitching the back stay onto shoes; cutting bedspreads for the U.S. Navy; working on the rewinding machine at the American Woolen Company readying extra filling for the looms; operating an automatic weaving machine.
(Portland, Maine Telegram, October 5, 1941.)

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## WOMEN REPLACING MEN

### CALIFORNIA

350 women are doing men's work and getting men's wages in the Vultee Aircraft plant at Downey. They work on 30 different types of direct production jobs, including putting together small sub-assemblies, operating light rivet guns, drill presses, paint sprays, and the installation of fittings and equipment in fuselages on the power assembly line. Men who gave up jobs to them in aluminum welding and lathe operation were released for heavier work. (Christian Science Monitor, October 7, 1941.)

The average wage for women is 70½ cents an hour, the same wage for men doing similar work. About two-thirds of the women are married and about 60% of these have children. (Washington Star, September 27, 1941.)

"Several large plants were visited by the Division of Industrial Welfare to determine what work is being done by women. It has been the practice for several years to employ women as power machine operators in the making of fabric coverings for wings, but with the speed up of production on account of defense needs, women are now employed as drill press operators, burrers, filers, punch operators, in the assembly of small parts, light welding and bending of tubes, soldering, spot welding, painting, attaching small parts, radio and electrical installation, connecting wires in conduit boxes, masking and spray gun painting.

The women are doing the same work as the men and are employed at the same wage. Some plants require previous experience, generally in electrical, radio, and battery assembly work."

(Report of the Division of Industrial Welfare of the Department of Industrial Relations, State of California, August, 1941.)

### CONNECTICUT

In Middletown there is still a shortage of experienced male help and employers are reluctant to use women to fill extra vacancies. (Connecticut, Bulletin of the Employment Security Division, September, 1941.)

### DISTRICT OF COLUMBIA

Already Western Union and Postal Telegraph have a staff of 53 girl messengers who do "block duty". They constitute about 10 percent of the messenger staff. At the beginning of the emergency about 10 percent of the messenger staff went with the National Guard, and many more were drafted. The firms decided to hire girls before jams developed. (Washington Star, October 4, 1941.)

Girls and young women between 18 and 25 are finding increasing employment in both government service and private industry because of a scarcity of boys and young men. Within a few days more than 100 girls were placed on such duty by the Civil Service Commission at a salary of $1080 per year. More are expected to be hired.

### INDIANA

A company producing automobile parts is hiring women to replace men selected for military service. (New York Times, October 13, 1941.)

### MAINE

A textile machinery manufacturing company is using women in its machine shop and reports that their work compares with that of men. (New York Times, October 13, 1941.)

### MARYLAND

The Fairchild Engine and Airplane Corporation has hired 24 women aged 20 to 52 years in their Hagerstown plant in jobs customarily done by men. They are working in the manufacture of sheet metal parts, in sheet metal assembly and metal riveting, on drill presses, and on needlework. 35 more are in training. By late winter the number is expected to be over 200. (Baltimore Sun, September 28, 1941.)

### MASSACHUSETTS

Girl pages have been hired by the First National Bank of Boston and the Old Colony Trust Company to fill vacancies left by messenger boys called into the armed forces or defense jobs. The girls will be given an opportunity to train for bank jobs as experts in typing, shorthand, bookkeeping and other posts. (American Banker, New York City, September 29, 1941.)

### MICHIGAN

In Detroit about 30 women are working for the Fuller Brush Company in door to door selling. The branch manager says that the women are outselling the men in many cases and that some of the star salesmen make as high as $100 a week. Eight girls have been hired as drivers by the La Salle Cab Co. The Detroit Bank has taken to using girls as junior bank clerks in its branches. It takes four to six months for training. (Detroit Free Press, September 21, 1941.)

### MISSOURI

In St. Louis an investment broker house is replacing boys with girls in the job of putting up figures. (Photograph/St. Louis Star Times, September 20, 1941.)

## NEW YORK

To offset the critical shortage of farm hands in Onondoga County, women and girls are being hired for harvesting. On the Smith-Canastota Corporation farms, 20 of the 50 hands were women. The corporation has never employed women previously. (Syracuse Herald-Journal, September 9, 1941.)

## NORTH CAROLINA

In Charlotte a large grocery chain sought the aid of the Employment Service in finding women for jobs as package checkers, jobs formerly done by men. The use of women as soda dispensers is becoming commonplace in Charlotte, and a number of firms have requested the Employment Office to supply women for office work formerly handled by men. One ice cream firm hired a woman last week for the first time. According to the manager of the Charlotte Employment Office, the trend toward hiring women is already definite enough to indicate that greater facilities will be needed to care for the children of women workers. (Charlotte Observer, September 26, 1941.)

## OREGON

Women will replace men as board markers in a Portland investment office. (Portland, Oregon Journal, August 15, 1941.)

## WISCONSIN

A tanning company at Fond du Lac is employing 125 or more women in jobs formerly held by men.

In Milwaukee so many taxicab drivers are entering military service or going to other types of work that women drivers are being hired.

(New York Times, October 13, 1941.)

## EMPLOYMENT OF MARRIED WOMEN

### CONNECTICUT

There is practically no skilled help now available in the Meriden area. There is an abundance of female applicants seeking factory employment; these are untrained or are married women seeking to reenter the labor market.

In the Hartford area the ban against married women office workers is being constantly relaxed. Married women are entering the labor market in large numbers.

There is a noticeable tendency toward the employment of married women in Torrington and resistance along this line seems to be lessening. A great many married women have been placed in various factories during August.

(Connecticut, Bulletin of the Employment Security Division, State Department of Labor, September and October, 1941.)

## LABOR SHORTAGE RELATING TO WOMEN

### CONNECTICUT

In the Hartford area shortages are reported of power sewing machine and laundry workers. Women office workers are in great demand and the supply of even inexperienced stenographers and typists is virtually exhausted.

In New Britain there is a steady demand for women power press operators. Women applicants are stating preference for inspection or assembly work and are reluctant to take power press work because of the danger of possible injuries.

There has also been a decided increase in the demand for general office clerks, bookkeepers and office equipment operators, both with experience and limited training, with the supply of trained workers in these occupations practically exhausted.

In Bristol satisfactory personnel for retail stores are difficult to obtain.

A shortage of women workers for factory and store work was noted in New London. Few, if any, competent female stenographers are unemployed.

(Connecticut, Bulletin of the Employment Security Division, State Department of Labor, September, 1941.)

### GEORGIA

The Georgia Re-employment Service is working hard to get enough women stenographers, typists and business machine operators to fill the unprecedented demand. With the government snapping up all women who have any training whatever, private business is having a hard time finding girls to take dictation, operate billing and calculating machines, and do clerical work. (Atlanta Constitution, October 15, 1941.)

### NORTH CAROLINA

The Employment Service reports shortages in the following lines: domestic service, 8 cities; hosiery, 2; other textiles, 4; hotels and restaurants, 3; clerical, 2. (Employment Security News, September 10, 1941.)

## TRAINING OF WOMEN

### UNITED STATES

W.P.A. announced in-plant training, which sends W.P.A. workers into plants that requisition them for training periods of not more than four weeks and then usually hires them, is operating in 72 cities. W.P.A. said that because trainees are hired as regular employees after an average of two and one-half weeks, thousands are expected to be placed in defense production jobs during the coming months. Twelve plants have been authorized to train women. (Office of Government Reports, Information Digest, No. 302. September 27, 1941.)

### CALIFORNIA

Pre-employment courses have been opened to women. (Social Security Bul., September, 1941.)

Over 100 women from 18 to 45 are enrolled in an aircraft engineering school in Los Angeles. They are learning to operate drills and riveting guns, to handle sheet metal and body fabric, to hammer and weld. (Los Angeles Examiner, September 1, 1941.)

### CONNECTICUT

In Bridgeport classes for the training of women in the operation of machines started on August 4 and the first group of trainees has been placed.

In Norwalk two firms have agreed to employ some Negro girls to be trained as power sewing machine operators.

In Waterbury a 200-hour Tracing Course for girls was completed and no courses are in progress for women at the present time.

(Connecticut, Bulletin of the Employment Security Division, State Department of Labor, September, 1941.)

### DELAWARE

One N.Y.A. course has 27 girls doing practical work in radio repair and learning to transmit and receive code messages. (Wilmington News, October 25, 1941.)

### KANSAS

An experimental class in wood working for women has been conducted in Wichita. Of 24 enrolled, 8 have been placed in local aircraft plants. More than half of the 328 women in Wichita in defense industries are in aircraft plants. (Wichita Beacon, August 24, 1941.)

## MARYLAND

On September 27, the vocational training director for Baltimore announced plans to enroll 500 women in defense training classes within two weeks. Already 21 girls were receiving instruction in aircraft riveting and sheet metal work, marking the first determined effort to develop skilled women workers for the aircraft industry. Previously women classes specialized in small parts assembly, soldering, and making electrical connections. Women between 18 and 35 weighing about 125 pounds are preferred because of the tight working quarters in riveting.

Women are being trained to operate small machines for precision work - drill presses, planers, shapers and lathes. Local women residents can be added to payrolls without creating a housing problem, it is pointed out. (Baltimore Sun, September 28, 1941.)

Pre-employment courses have been opened to women. (Social Security Bulletin, September, 1941.)

There is a defense training program for women at Hagerstown, Maryland, and the program will be extended to other points outside the Baltimore area. (Maryland Employment News, October, 1941.)

## MICHIGAN

Twenty-five women employees at Bowen Products Company, Ecorse, are the first students in a Detroit course to prepare women factory workers for inspection of defense products. They are being taught to read micrometers and will be used to inspect shells being produced by the Bowen Company. Inspection of machine parts for airplanes, tractors, tanks and other equipment is planned if the present course is a success. (Detroit Times, September 23, 1941.)

## NEW JERSEY

27 women in Newark are learning to make blue-prints and drawings of machines in a 6 weeks course (Newark Star-Ledger, August 7, 1941.)

## NORTH CAROLINA

The experiment at a furniture manufacturing plant, involving the training of women upholsterers has proven a definite success. (Employment Security News, Raleigh, North Carolina, September 24, 1941.)

## WISCONSIN

The first N.Y.A. resident center in Wisconsin to train girls in defense industries opened about September 1 in Rhinelander with 38 in attendance. They will learn sheet metal, electrical, radio and machine shop work and welding. (Milwaukee Journal, August 14, 1941).

## NEW OR EXPANDED PLANTS WHICH MAY EMPLOY WOMEN

### ILLINOIS

$2,000,000 for ordnance equipment plant at Rockford. 1/ (This Week in Defense, September 12, 1941.)

### KENTUCKY

A new $40,000 building to house a men's athletic underwear factory is to be built in Paris.

### MICHIGAN

An automobile company in Detroit expects to employ 6,300 in the next six months on planes and engine parts. About 3,000 should be hired by September 1 and 2,300 more by November 1. A new ordnance plant expected to be in operation in Detroit early in 1942 will employ at least 8,000, half skilled. A manufacturer of airplane engines employing about 4,500 August 1, expects to increase that by 16,000 early in 1942.

Defense production in Detroit:

| | | Employed now | To be employed by 1942 |
|---|---|---|---|
| 1 | engine parts | 3,000 | 6,300 |
| 1 | ordnance | - | 8,000 |
| 1 | aircraft engines | 4,500 | 16,000 |
| 1 | arsenal | 3,500 | 15,000 |
| 1 | aircraft engine | 14,000 | 25,000 |
| | | (ultimately 70,000-80,000) | |
| 1 | aircraft parts | 800 | 3,000 |
| 1 | aircraft parts | - | 10,000 |
| 1 | machine gun | 750 | 1,750 |

(Curtailment in auto prod. may supply all needed workers.) (Labor Market Report for Michigan, July 1-August 15, 1941.)

### MINNESOTA

Approximately 40 percent of the force of the St. Paul ammunition plant, which is to begin production early next year, will be women. The plant will manufacture small arms cartridges. (St. Paul Pioneer Press, September 30, 1941.)

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1/ Construction authowized by Government under defense program.

MISSOURI

The new $35,000,000 Weldon Spring Ordnance Works started production of TNT today. (New York City World Telegram, September 29, 1941.)

NEW YORK

At Schenectady a new radio equipment plant is being built which will employ about 2,000 when peak production is reached in 1942. (The Employment Review, New York State, September, 1941.)

NORTH CAROLINA.

The Duplan Corporation will establish a throwing plant in Winston Salem.

OHIO

$16,000,000 for magnesium plant at Painesville 1/. (This Week in Defense, September 12, 1941.)

TEXAS

$52,000,000 for magnesium plant at Freeport 1/. (This Week in Defense, September 12, 1941.)

VIRGINIA

The second Nylon Yarn plant of E.I. du Pont de Nemours Company, at Martinsville, Virginia, will start production during the week of November 3. Production may reach full rate by next summer. Eventually about 1,000 workers will be employed at Martinstille, bring total jobs in Du Pont created by the nylon development to over 3,500. (Daily News Record, October 22, 1941.)

WASHINGTON

$3,900,000 for aluminum plant at Tacoma 1/. (This Week in Defense, September 12, 1941.)

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1/ Construction authorized by Government under defense progam.

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## PRIORITY UNEMPLOYMENT AFFECTING WOMEN

### CONNECTICUT

Rubber plants in New Haven having trouble in getting materials are losing workers, since hours must be reduced. (Connecticut Department of Labor Monthly Bulletin, October, 1941.)

### NORTH CAROLINA

Owing to the silk shortage, the 21 largest silk plants in the State laid off 2,582 workers through September 15, and estimated that an additional 250 workers would be dropped by the end of September. These mills employed on July 30 13,553 workers, including 7,997 women. (Employment Security News, Raleigh, North Carolina, Vol. 6, No. 13, September 24, 1941.)

Between September 1 and 27, 33 men and 35 women who were former silk workers have been placed in other industries. 35 percent of them were placed in permanent jobs. Most of them returned to textile industries, particularly the knit goods industry, many went into wholesale distributors industries, the retail trade, and the manufacturing of wearing apparel and other finished products. (Employment Security News, Raleigh, North Carolina, Vol. 6, No. 14, October 1, 1941.)

### PENNSYLVANIA

From 3,000 to 4,000 workers have been forced out of jobs in Scranton and Wilkes-Barre because of the silk shortage. O.P.M. has commitments from employers to hire 1,335 power machine operators and 200 assistants. (This Week in Defense, September 19, 1941.)

The first of several hundred women who are being retrained for defense jobs have just been put to work at the Quartermaster Depot in Philadelphia. Hosiery workers thrown out of work by the shortage of silk have been aided by co-operation of the Government and labor officials. (Philadelphia Bulletin, September 26, 1941.)

## OTHER SUBJECTS RELATED TO WOMEN'S EMPLOYMENT

### UNITED STATES

Garments for women in defense seen as a new industry. Those making them are urging priorities for necessary fabrics. (Daily News Record, November 7, 1941.)

### CONNECTICUT

There is a continued demand for single girls 18 to 25 in Torrington. (Conn. Department of Labor Bulletin, October, 1941.)

Miss Pidgeon

WOMEN'S BUREAU
U. S. DEPARTMENT OF LABOR
WASHINGTON

## RECENT MATERIAL ON DEFENSE

From: Research Division
(Miss Hooks)
List No. 4. October 6, 1941

The Research Division is closely following publications on Defense through the Library and other Government agencies. Of some of this material the Bureau Library also has its own copies.

This list includes data on:

Great Britain .............................. p. 1-2
Canada ...................................... 2
Labor Supply Problems ...................... 2
Occupations and Industries ................ 2

## GREAT BRITAIN

| | | Reference to women |
|---|---|---|
| 1. | Grace, Kathleen M. "Women as Engineers; Organization and Administration of a Training Center. I. Introduction to Training." The Journal of Careers, June, July, 1941. | British Power Boat Company's training scheme for women. |
| 2. | Great Britain. Fifteenth Report from the Select Committee on National Expenditure. Session 1940-41. "Labor in the Aircraft Industry." | Section on the need for women in aircraft work. |
| 3. | Great Britain. Ministry of Labor and National Service. Schedule of Reserved Occupations and Protected Work. Revision April 10, 1941. | Women included under general list of occupations as well as special list affecting women only. |
| 4. | Hamilton, Mary Agnes. Women at Work. A Brief Introduction to Trade Unionism for Women. London, George Routledge & Sons, Ltd., 1941. 188 pp. | Background for current industrial mobilization of women. |
| 5. | Industrial Welfare and Personnel Management. "Hours of Work for Women." May, 1941. | Part time work and shopping arrangements for women employees. |
| 6. | Jenkins, B. C. The Utilization and Training of Labor Under War Conditions. London, The Institute of Production Engineers, 1941. 15 pp. | Discusses dilution technique; includes material on women. |

| GREAT BRITAIN (Continued) | Reference to women |
|---|---|
| 7. Life. "British Women at War." August 4, 1941, pp. 70-80 | Women in industry, agriculture and the auxiliaries. |
| 8. National Union of General and Municipal Workers Journal. "Women in Industry", Vol. 4, No. 7, pp. 307-312. July, 1941. | Entire article |
| CANADA | |
| 9. McLaughlin, Kathleen. "Canada's Warring Women." Independent Woman, Vol. 20, No. 9 September, 1941. | Discussion of Canadian women's work in industry, land army, voluntary services. |
| 10. U. S. Bureau of Labor Statistics. "Wartime Activities and Conditions in Canada. "Monthly Labor Review, Vol. 52, No. 2, pp. 332-337. February, 1941. | Includes comment on women. |
| LABOR SUPPLY PROBLEMS. | |
| 11. Benge, Eugene J. "Overcoming Skilled Labor Shortage." Industrial Commentaries, Vol. 1, No. 5. Chicago, H. H. Van Hoeserr, Jr., Inc., 1940. | Not specifically about women. |
| 12. International Labor Office. Labor Supply and National Defense. Studies and Report Series C, No. 23. Montreal, 1941. 245 pp. [Revision of preliminary report listed May 15 as item 4.] | Discusses dilution and mobilization of women in 9 countries. |
| 13. U. S. Bureau of Labor Statistics. "Wartime Labor Supply in Australia, New Zealand and South Africa." Monthly Labor Review, Vol. 53, No. 3, pp 607-612. September, 1941. [Summarized from I.L.O. Report, listed as No. 12.] | Information on dilution and mobilization of women. |
| OCCUPATIONS AND INDUSTRIES. | |
| 14. National Retail Dry Goods Association. Store Management Group. Store Management Operations and Personnel Policies Under the National Defense Program. No. 1 West 31st St., New York, 1940. | Section on jobs in which women could and could not replace men in department and specialty stores. |

Miss Pidgeon

WOMEN'S BUREAU
U.S. DEPARTMENT OF LABOR
Washington

# RECENT MATERIAL ON DEFENSE

From: Research Division
(Miss Hooks)
List No. 3. July 15, 1941

The Research Division is closely following publications on Defense through the Library and other Government agencies. Of some of this material the Bureau Library also has its own copies.

This list includes data on:

Great Britain
Occupations and Industries
Current Material on Women in Defense
(Other than Women's Bureau)

| No. | Item | References to women |
|---|---|---|
| | **GREAT BRITAIN** | |
| 1. | Great Britain. Ministry of Labor and National Service. The Employment of Women. Suggestions to Employers. P.L. 87. 1941. | Entire leaflet |
| 2. | Industrial Welfare and Personnel Management. "Women Trainees." January, 1941. | Entire article |
| 3. | ________________. "Women Bus Conductors. Selection and Training by the London Passenger Transport Board." February, 1941. | Entire article |
| 4. | ________________. "Training for Personnel Management." April, 1941. | Includes material on women. |
| 5. | U. S. Department of Labor. Wage and Hour Division. War Time Regulation of Hours of Labor and Labor Supply in Great Britain. June, 1941. | Includes material on women. |
| | **OCCUPATIONS AND INDUSTRIES** | |
| 6. | Federal Security Agency. List of Occupations Approved by the Office of Production Management for Vocational Training Courses for Defense Workers. 1941. | List of occupations in 19 defense industries, based on Dictionary of occupational definitions. Nothing specifically about women. |

7. American Association for Adult Education.
"Women in Defense: The Volunteer."
"The Worker." "The Consumer."
*Defense Papers,* Nos. 3, 4, 5. 1941.

8. Greenbie, M. "New Skills and How to Acquire Them; Women in Defense Industry." *Independent Woman.* June, 1941.

9. U. S. Bureau of Labor Statistics. "Employment of Women in Defense Industries." *Monthly Labor Review,* Vol. 52, No. 5, pp. 1147-51. May, 1941. [Summary of W.B. material.]

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Miss Pidgeon

WOMEN'S BUREAU
U. S. DEPARTMENT OF LABOR
Washington

RECENT MATERIAL ON DEFENSE    From: RESEARCH DIVISION
(Miss Hooks)
List No. 2, June 18, 1941

The Research Division is closely following publications on Defense through the Library and other Government Agencies. Of some of this material the Bureau Library also has its own copies.

list
This/includes data on:
Canada
Great Britain
Current Material on Women in Defense
(Other than Women's Bureau)

## CANADA

| | References to Women |
|---|---|
| 1. Canada. Department of Labour. "Canada's War Emergency Training Program for 1941." The Labour Gazette, vol. 41, No. 1, pp. 14-21. January, 1941. | Not specifically about women |
| 2. ______________. "Labour supply in Canadian War Industries." The Labour Gazette. vol. 40, No. 12, pp. 1248-1253. December, 1940. | Includes material on women. |
| 3. ______________. "War Emergency Training Program." The Labour Gazette, vol. 41, No. 3, pp. 271-281, and No. 4, pp. 420-426. March, April, 1941. | Includes data on women. |
| 4. Mayer, Elizabeth Harvey. "The Effect of the War on the Organization and Structure of the Canadian Employment Market." International Labour Review. vol. 43, No. 1, January, 1941. | Discusses situation and policies related to women. |
| 5. U. S. Bureau of Labor Statistics - "Wartime Training of Personnel and the Dilution of Labor in Canada". Monthly Labor Review, vol. 51, No. 1, pp. 27-9. July, 1940. | States policy of no need to recruit women for industry. |

## GREAT BRITAIN

| | | References to Women |
|---|---|---|
| 6. | Brenley, Thomas. *War Time in Britain*. The British Library of Information, 50 Rockefeller Plaza, New York. | Small section on Women. |
| 7. | British Library of Information. *Women's War Work*. 50 Rockefeller Plaza, New York. 4 pp. | Describes industrial, community, and auxiliary work. |
| 8. | *Bulletins from Britain. Number 35*. Supplement. "Mobilization of Britains' Woman Power in the Industrial Effort". April 30, 1941. | Entire article. |
| 9. | Jameson, Storm. "Women on the Spot." *The Atlantic*. February, 1941. | Discusses women in munitions work. |
| 10. | Listowell, J. "How Britain's Women Mobilized. *Independent Woman*. March, 1941. | Entire article. |

### Current Material on Women in Defense

11. American Association for Adult Education. *Women in Defense*. Defense Digest No. 5, 1941. 23 pp.

12. Glese, Kathryn. "Volunteer in Critical Times." *Survey midmonthly*, January, 1941, pp. 8-10.

13. *School and Society*. "Emergency War Work for Girls." vol. 53, No. 1371, pp. 436-7. April 5, 1941. [NYA Workshop Projects].

14. ______________. Russell Sage College Develops a Women's Defense Program." vol. 53, No. 1363, pp. 183-5. February 8, 1941.

15. *Science News Letter*. "Young Women Wanted as Civilian Airplane Plotters." May 3, 1941, p. 283.

A number of additional items have been examined and listed on *Hours of Work* and *Training*, but these *contain nothing specifically about women*.

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WOMEN'S BUREAU
U. S. DEPARTMENT OF LABOR
Washington

RECENT MATERIAL ON DEFENSE     From: RESEARCH DIVISION
(Miss Hooks)

May 15, 1941

The Research Division is closely following publications on Defense through the Library and other Government Agencies. Of some of this material the Bureau Library also has its own copies.

This list includes data on:
Great Britain
Occupations and Industries
Current Material on Women in Defense
(Other than Women's Bureau)

## Great Britain

| | | References to Women |
|---|---|---|
| 1. | Article in Monthly Labor Review. May 1940<br>"Work Time of Women and Young Persons in British Factories." Summary of a British Home Office Report. | Entire Article |
| 2. | Regulation of Hours of Labor in Great Britain. By Wage and Hour Division March 1941. 21 pages. | Includes data on women |
| 3. | The Labour Situation in Great Britain. May-October, 1940. I.L.O. Report Montreal. 1941. 56 pages. | Includes data on women |
| 4. | Labour Supply and National Defense. Preliminary report presented for discussion to United - States - Canadian Tripartite Meeting. April 1941. Mimeographed. 153 pages I.L.O. Montreal. | Mentions that women are an available labor supply |
| 5. | British Labor and the War. By Frieda Wunderlich. New York School for Social Research. 1941. 67 pages | Discusses use of women's skills |
| 6. | Ernest Bevin - The War and the Workers. 1940. 12 pages. | Not specifically about women. |
| 7. | Caroline Haslett, Article in Woman Engineer. March 1941. Women in Industry. | Discusses program of Women's Engineering Society |
| 8. | Peggy Scott. British Women in War. | Chiefly community and military auxiliary services. |

| | Occupations and Industries. | References to women |
|---|---|---|
| 9. | Arsenals of Democracy. War Department pamphlet. 31 pages. | Mentions woman employment in one or two plants already known to Women's Bureau |
| 10. | List of Occupations in which women may be employed. CONFIDENTIAL. From Bureau of Employment Security. | A list made up chiefly from Occupational Dictionary |
| 11. | Occupations Important in Defense. B.L.S. December 1940. 42 pages. Defense Labor Requirements Unit (John J. Croston, Chief. Norman J. Meiklejohn.) | Indicates supply and demand and training needed. Nothing Special about women |
| 12. | Estimated Labor Requirements for Machine Tool Industry. B.L.S. April 1941. 26 pages. (Ibid.) | Nothing as to women |
| 13. | Expansion of Aircraft Industry. Monthly Labor Review. February 1941. By John J. Croston. | Nothing as to women |
| 14. | Rearmament and the Chemical Industry. Army Industrial College. Mimeographed. October 1940. 15 pages. | Nothing as to women |

Current Material on Women in Defense.

15. Independent Woman. "Training for Defense." By Helen Dallas. April, 1941.

16. _______________. "How To Mobilize Womanpower." November, 1940.

17. New York State Department of Labor. "Commissioner Miller Says - ." Industrial Bulletin. February 1941.

18. Office of Emergency Management. "Women Workers for Defense Industries." Defense. October 18, 1940.

19. Office of Production Management. Labor Division. Labor Supply and Training Section. Women's Role in Defense Industries. By Miss Thelma McKelvey. April 19, 1941. PM286. Mimeographed.

20. U. S. Office of Education. "The Defense-Training Program." School Life. December 1940.

21. ________________________. "Women Train for National Defense." March of Education. Supplement No. 1, March 1941.

22. Vocational Trends. "Women and War." October, 1940.

23. ________________. "Bang-Up Jobs: Important to Defense Are the Jobs of Explosives Workers." February, 1941.

24. Zapoleon, Marguerite W. Women and National Defense. U. S. Office of Education. Vocational Division. Occupational Information and Guidance Service. Misc. 2546. Washington. 1941. Mimeographed.

25. ______________________. "Women in Defense Occupations." (Extracts from preceding item.) Occupations. April, 1941.